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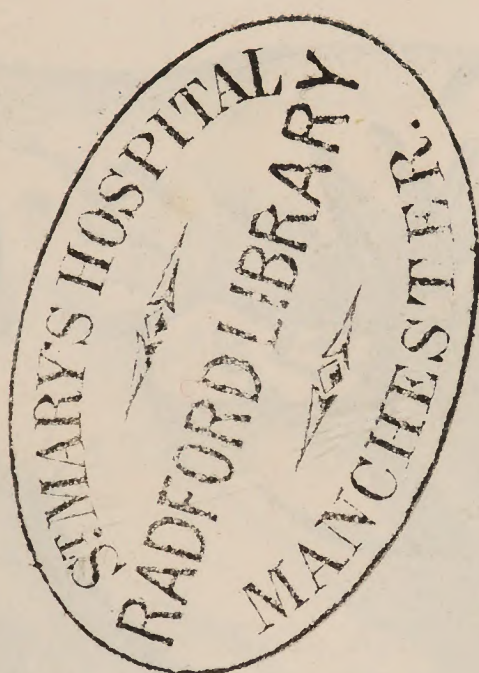


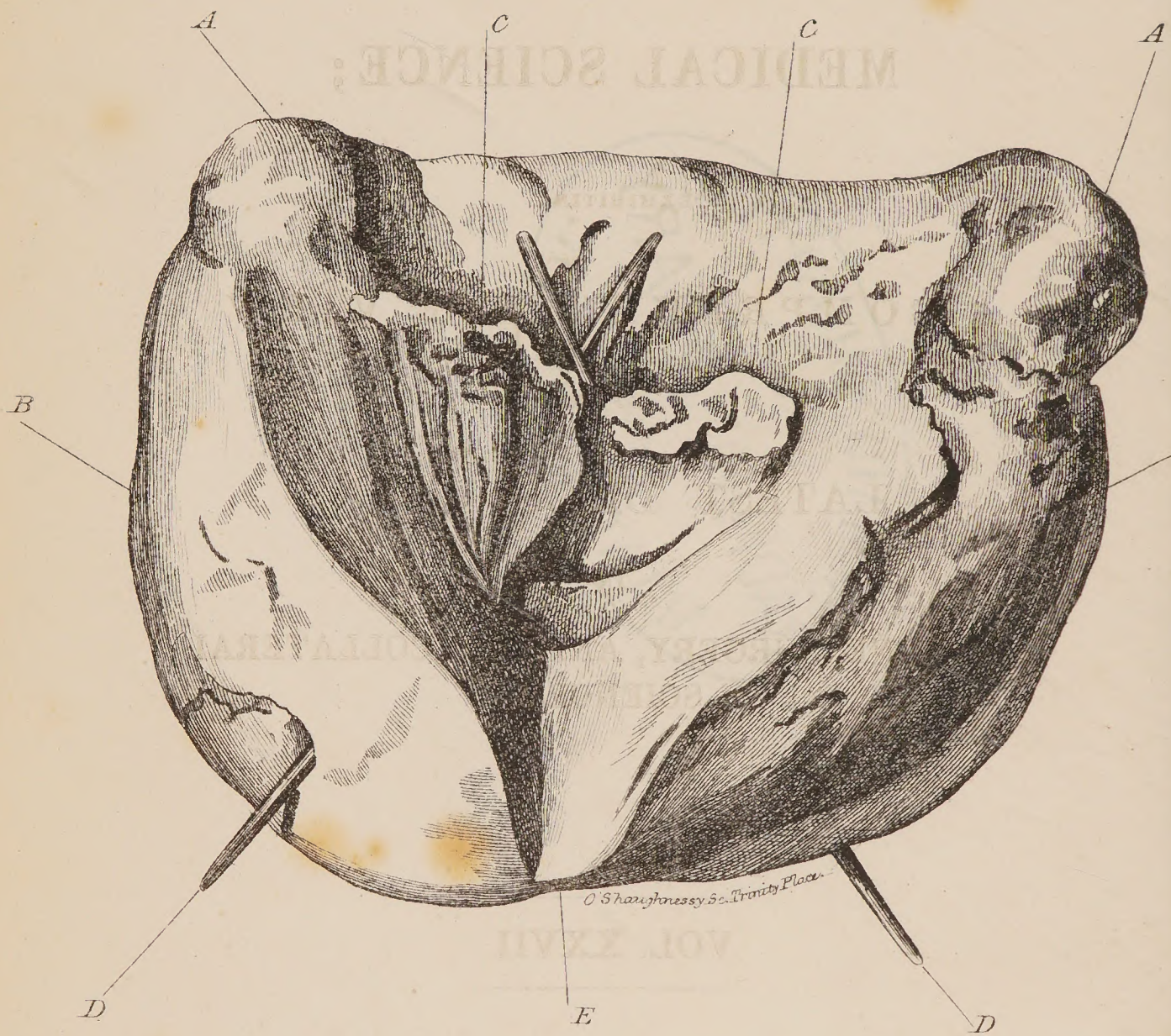
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- A.A.* That part of the uterus cut through by the Ligature.
B.B. The body of the organ laid open Showing the broad ligaments (*C.C.*) within its Cavity
C.C. The broad Ligaments.
D.D. Probes passed through the fallopian Tubes.
E. The Inverted Fundus Uteri.

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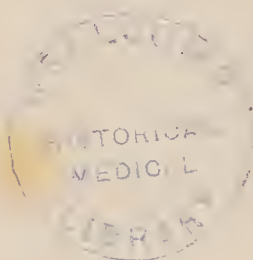
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VOL. XXVII.

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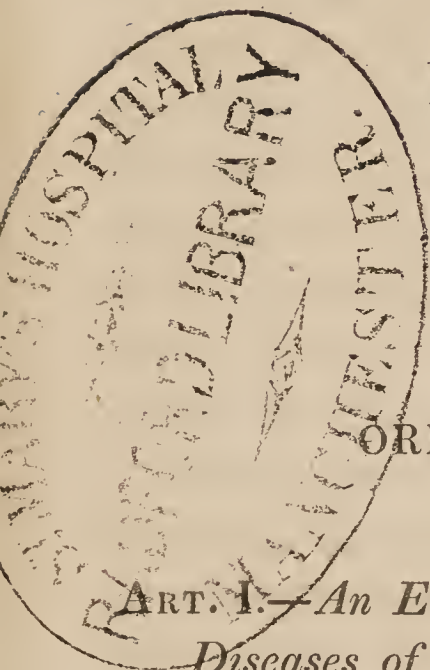
OF

MEDICAL SCIENCE,

MARCH 1, 1845.

PART I.

ORIGINAL COMMUNICATIONS.



ART. I.—*An Essay upon the Malformations and congenital Diseases of the Organs of Sight.* By W. R. WILDE, M. R. I. A., Surgeon to St. Mark's Ophthalmic Hospital, and Lecturer on Diseases of the Eye and Ear, in the School of Medicine, Park-street, &c., &c. Illustrated with wood engravings.

[Read before the Dublin Obstetrical Society].

IN what way the new-born infant differs in its anatomical construction from the full-grown, well-formed adult, in the relative proportions of their bodies, or the comparative sizes and development of individual organs, is still a question propounded in the schools. Thus the proportion, compared with the rest of the body, of the head, the liver, and the abdomen, generally; the cavity of the thorax, the structure of the lung, the condition of the larynx, or the other organs of sense; as well as the proportions of the extremities, the construction of the bones, and the size, peculiarities, and functions of particular structures and tissues, are all dwelt upon,

and the causes of their greater or less development explained, or attempted to be done so.

Now as we follow up this analogy and this comparison, through the organs of sense in particular, a wide and interesting field for anatomical observation, and physiological speculation, opens to us. The condition of the organs of sight, touch, hearing, speaking, or smelling, as they naturally present some peculiarities at birth, which they do not afford in after life, when their peculiar powers have been called into action, and, if I may so say, educated, demands not only the attention of the anatomist and the physiologist, the surgeon and physician, but of the well-educated midwifery practitioner also; for, so long as the hand of man is with us at our birth, so long will the first days of our infantile existence, with all the diseases of intra or extra-uterine life, congenital, or subsequently acquired, medical or surgical, as well as all the peculiarities of the new-born babe, fall under the eye, or require the skill of the attendant accoucheur. We are all aware of the necessity of being well acquainted with the usual natural appearances which the child presents at birth; as, for instance, the peculiar colour of the skin; the character of the first alvine discharges; the mucus which lines the meatus auditorius; or even the occasional existence of milk in the mammæ; or a remnant of the membrana pupillaris remaining in the eye, &c. &c.; together with numerous other infantile conditions, generally specified in the books, and which are of such common occurrence as not to require specific notice here.

But there are other abnormal conditions,—aberrations from the general laws that appear to regulate the formation of the internal organization, or the external contour of living bodies, both in man and the lower animals—*lusus naturæ*,—deviations from the original type, as, in accordance with modern phraseology, and extended scientific research, they are now styled; and which are usually denominated monstrosities,

or congenital deformities,—that every practitioner, but in particular the accoucheur, from his being in all cases the first opinion asked, should be well informed upon. Thus, the supernumerary organs, as additional fingers and toes, or the deficiency of these, or of any such parts, singly or collectively; the various solutions of continuity, known as hare-lip, cleft palate, or spina bifida, and recognized either as the result of morbid action or irregularity in the growth of the foetus; or again, when parts become displaced, as in the viscera, or, are altogether wanting, as in acardiac or acephalous foetuses; together with closure of the anus, the ear, the urethra; or in fine, any of those curious appearances, such as Siamese twins, or foetuses joined together after various fashions; it is our duty to be informed upon.

Heretofore such curiosities were termed freaks of nature, but they are all now classed according to some more definite rules, which in those days of transcendental anatomy, have been styled laws of analogy, by which every deformity or monstrosity is referred to some arrest of development, while the young animal is “passing,” as it is called, “through some of the transitions” from reptile to fish, fish to fowl, and fowl to mammalia.

I have often thought that it would form a very interesting, and not altogether uninteresting essay, if some careful and laborious investigator in this country would draw up an outline, or brief *résumé*, of all the known congenital deformities to which the human subject is liable. After all, essays and papers of that description are of great value, although men have seldom awarded them the meed of praise they deserve, for the labour and industry expended in their compilation. The materials of such essays are generally scattered throughout a great number of works, or are to be found in detached notices, in monographs, and periodicals, and when such are carefully and skilfully arranged, their authors are as deserving of praise, as the bee who collects from every opening

flower, upon the wide expanse of the landscape, the sweets, that when brought home to the cell, form delicious food ; but which, if uncollected, or left in the honeybags of their native flowers, we would never know anything about. Such compositions act like modern reviews ; they put men in possession of the current modern literature of the day, without obliging them to read the works themselves. And although the practical experience of the compiler may not be very extensive, still one great object may be achieved : inquiry may be elicited and discussion provoked. For such a task I have neither ability nor inclination, there are, however, certain congenital abnormal appearances of the organs of sight, either the result of arrest of development at some period of their growth, or, as is much more frequently the case, of disease and morbid action going forward during uterine life, which are occasionally met in ophthalmic practice, and which I shall now endeavour to lay before my readers.

From the researches of Wagner, Burdach, Bischoff, and other recent observers in the field of embryology, we have been made acquainted, in a great measure, with the progress, growth, and development of the human foetus, progressively, and step by step, from the earliest period of its existence, when its parts can be only distinguished in the field of the microscope, to the epoch of its uterine expulsion, and individual and independent life. We are aware also, that not only are the various parts and organs of the growing animal superadded and developed, one by one, according to a regular scale of formation, but that the various structures, which enter into the composition of each of these parts or organs, are also added, day by day, till they make an individual and perfect whole, and the sum of these organs goes to constitute the living animal, complete in all its parts, and fitted to occupy the precise position, and to fulfil the exact objects, for which it was intended by an allwise and overruling Providence.

We know that even after organs have received their definite and particular shape, various remarkable changes still take place in the structures which enter into their composition; some that were originally highly vascular, presenting at birth, and in after life, no traces of such peculiarity; whole parts that performed important offices in uterine, and the early portions of infantile life, after a short time, withering, becoming absorbed, and completely removed, as the suprarenal capsules, and the thymus gland, &c.; parts that were before opaque, now becoming transparent, and those that were originally translucent or diaphanous, losing such characters, and becoming white, thickened, and increased in strength and power of resistance: we know how cartilage becomes bone, apertures close up, and the very stream of life turns into a new and before unoccupied current. All these various stages of development, collectively and individually, together with numerous others, which it is unnecessary to enumerate, are now tolerably well established.

The organs of sense form no exception to these rules; and, as in the adult normal eye, we have from its transparency, and the peculiarity of its structures, a better opportunity of observing some of the peculiar phenomena of life, than elsewhere; and in the diseased state, the very best field for the observation and study of disease, its progress and result; so, from like peculiarities of structure, has the embryologist in it a favourable opportunity for noting its origin, growth, and progress of development. The eye does not become a perfect whole at one and the same instant, nor is its perfection as an optical instrument completed till the last month of uterine existence, and perhaps not even then. The original membranous envelope, which, in the early days of foetal life, forms the general investment to the organ of vision, as a homogeneous semiopaque structure, afterwards becomes divided into cornea and sclerotic, possessing all the peculiarities and remarkable distinctions which these two different materials

present in adult life ; the choroid, the iris, and the lens, are superadded in their turn, the pigment is deposited, and the membrana pupillaris is absorbed, all according to definite laws, and at tolerably regular and precise periods.

Did space permit, it would form no indifferent preface to this paper to sketch the progress and growth of this individual organ, from the researches of the best recent observers, but as that cannot, in an essay of this description, be fully accomplished, my readers must concede the anatomical description of its development, as we proceed to inquire into those vices of conformation, the result of arrests of development in its growth, its colour, its consistency, transparency, and vascular arrangement, as well as those diseases, the result of inflammation, morbid growth, injury, or irregular action, which present at birth, under the general head of congenital defects.

On this subject very little has yet appeared in medical literature. In England I know of no special work, or even essay, upon the vices of conformation, or congenital deformities of the organs of sense ; and Mr. Lawrence, in his article on monstrosities, in the *Medico-Chirurgical Transactions*, in the year 1814, sums up the defects of the organs of sense, in a paragraph of less than a dozen lines ! Since then, however, several dissections of monstrosities have been recorded in the various periodicals of this country, in which some passing note has been afforded us, of the anatomical condition or malformation of the eye, and in the same class of literature, we find here and there, few and far between, facts related upon the same subject specially ; and works upon ophthalmology, more particularly, occasionally allude to congenital diseases of the organs of sight.

In France, as far I have been able to have access to its literature, the same defect is even more apparent than in this country ; the works of Geoffroy St. Hillaire, Malliard, and Cruveilhier, have afforded me but little information.

To Germany, the library of the civilized world, and the centre of every thing that concerns the eye in particular, we naturally look for information upon this curious subject;—here, in the land of the Sömmerrings, and Meckels, the Arnolds and Webers, of Treviranus, Walther, and Rosenmüller, who have all contributed so much to the normal anatomy of the eye, we turn to its literature, and not in vain, for some light to cheer us in this dark, and hitherto unexplored path. But until very lately, the knowledge of the Germans themselves, upon the congenital defects of the eye, was, like that of the English, scattered through the periodicals of the last forty years. At the commencement of this century, Kieser published a small commentary, “*De Anamorphosi Oculi*,” at Göttingen. In 1833, the venerable Seiler, Professor of Anatomy at Dresden, published some observations upon the congenital faults of the eye, but these were mostly confined to, or grounded upon the examination of monocoli. To this kind, good man, not only in his writings, but personally, I am indebted for much valuable information, and for an opportunity of examining the preparations of congenitally morbid eyes, in his splendid collection in the Surgical Academy, at Dresden.

Since then, the magnificent work of Friedrich Von Ammon, the *Klinische Darstellungen der Krankheiten des menschlichen Auges*, has appeared, and one fasciculus of it is devoted to the congenital diseases and malformations of the human eye. The *Ophthalmologische Bibliothek* is likewise rich in cases of this description, and *Graefe und Walther's Journal*, together with the new edition of *Himly's Augenhelilkundie*, afford many interesting examples.

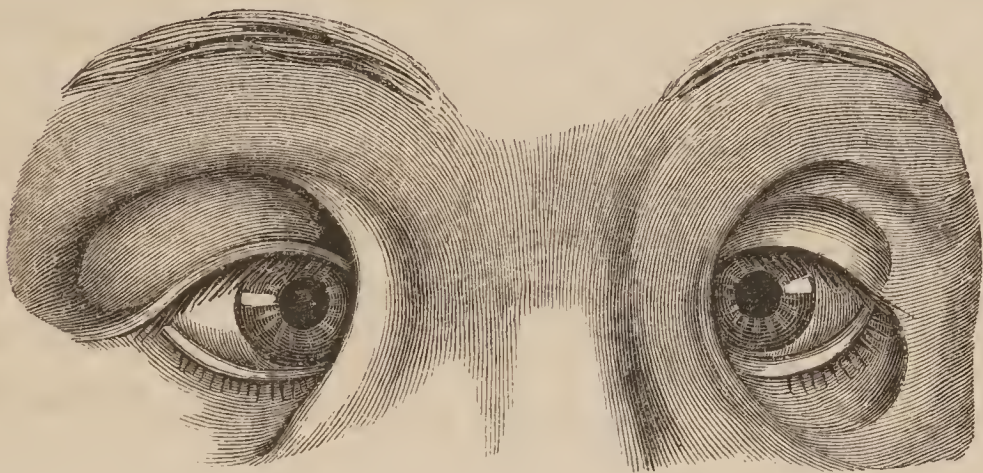
Messrs. Ware and Wardrop, Lawrence, Mackenzie, Middlemore, Travers, and Walker, have added a few cases, and I myself have made a small collection, some of which are made use of in this paper. With this material, and some unique

cases, furnished me by a Russian oculist, Professor Vanzetti of Scharkoff, and other friends, I have endeavoured to arrange a classification of congenital affections of the eye, according to the structures engaged. Thus, we will begin with the defences of the eye, and ocular appendages, the brow, the lids, the ciliæ, and lachrymatory organs, then proceed to the affections of the globe itself, in figure, size, position, and colour; in its various tunics, the conjunctiva, the cornea and sclerotic; next follow up this inquiry with regard to the parts subsidiary to the perfection of the eye as an optical instrument, as the iris and the pigmentum nigrum. Afterwards we shall take up the specially sensitive parts, as the optic nerve and the retina; this will lead us to the consideration of the malformations and the diseases of the dioptric or refractive media, the vitreous body and the crystalline lens, the affections of which are so common in this country; and conclude with a few general observations upon the condition of the eye or eyes, taken as a whole, found in those monstrosities denominated monocoli.

MALFORMATIONS AND CONGENITAL DISEASES OF THE DEFENCES
OF THE EYE AND OCULAR APPENDAGES.

The first malformation of the ocular appendages which I shall enumerate, is that peculiar affection denominated EPI-CANTHUS, which consists in a general superfluity of skin over the root of the nose, which, falling outwards on either side, forms a crescentic fold, covering over the inner canthus of the eye, completely hiding the caruncula, and, in some instances, advancing over the inner margin of the cornea, so as to give the appearance of strabismus. This disease was first remarked by Dr. Von Ammon of Dresden, but originally described by Schön; and it appears to have been by no means an uncommon affection in Germany. I have seen but two well-marked cases of it in this country; in one of these,

a little girl seven years old, there was a great flattening of the nasal bones, which, added to the peculiar condition of the integument, gave the child a very Chinese or Kalmuk appearance. Indeed I am inclined to think, from what I have observed of the Mongolian race, and from the examination of a great number of their crania, that the epicanthus, which we look upon as an irregularity, or congenital malformation in the European and the Caucasian race generally, is the natural or stereotyped condition of those nations to which I have just alluded. Epicanthus may occur in one or both eyes together ; generally, however, in the latter form.



The accompanying sketch, from a drawing by Dr. Adelman, of Würzburg, expresses, better than words, the peculiarities of this remarkable conformation. At first sight this defect has so much the appearance of strabismus, that both the cases which occurred in my own practice, were brought to me under the supposition, that the operation for the removal of that disease would have remedied the epicanthus. Carron Du Villards has likewise described seven instances, which he likens (not very aptly, however) to the appearance which dropsy of the lachrymal sac presents.*

* Schön,—*Handbuch der Pathol. Ant. d. Auges*, s. 60.

Von Ammon,—*Zeitschrift für die Ophthalmologie*. Bd. 1. 533.

Carron du Villards,—*Bulletin de Therapie*. Tom. xv. 1838.

In the notes to this essay I do not pretend to give all the authorities, nor any portion of the authorities on each subject ; but as far as I can I give the ori-

PTOSIS, or falling of the upper eyelid, is so frequently observed in new-born infants, the result either of accident, disease, or congenital malformation, that there are few practitioners who have not witnessed it, and therefore it is unnecessary to enter, at any length, upon the appearance it presents; my object not being to dwell upon the description of any of the well-known affections which one meets in the daily walk of practice, but to remark upon or delineate such rare vices of conformation as are not generally known or understood.

In ptosis in one or both eyes, in the atrophic form which appears at birth, unconnected with any injury of the cranium, it has been found that the levator palpebræ muscle was either entirely deficient, or existed in a mere rudimentary state.* The Germans say that in congenital ptosis, the rima palpebrarum is generally too small; and in their far-fetched analogies they liken it to phymosis penis. “I have repeatedly met,” says Dr. Mackenzie, “with a degree of depression of the upper lid, so considerable as to materially impede the function of vision, and which had existed from birth; in some of these cases the lid was the reverse of being swollen; it rather appeared atrophic, as if the levator muscle had either been originally deficient, or had wasted from disease.” A case of this latter form is now under my care. I remember, however, when a pupil in the Lying-in Hospital, distinctly recognizing two forms of ptosis, one with a swollen lid, when

ginal ones; and where I have not had access to such, or am not acquainted with them, then I have endeavoured to supply their places by the best and latest authorities I could procure. Thus, for example, in the disease under consideration, Epicanthus—Schön, Von Ammon, and Carron du Villards, were the three original describers—but since their publications we find descriptions in Von Ammon’s great work, *Klinische Darstellung der Angeborenen Krankheiten*, and in the late editions of Mackenzie, Himly, and Walker.

* In some nations, particularly Orientals, I have observed a much greater development of the upper lid, and also a greater droop in it, as a natural peculiarity, than in the European.

it generally appeared to arise from some undue pressure, exercised on the head while passing through the pelvis; and the other, the atrophic condition, seemed to be an original want of nervous energy in the part.

Jüngken thinks congenital ptosis is sometimes hereditary. In a case of this description mentioned by Mr. Lawrence, "the lids could not be opened on either side by voluntary effort to more than one-third of the usual extent; and when this was accomplished, the upper palpebra was quite smooth, without any fold between it and the eyebrow." The most remarkable case of congenital ptosis is one recorded by Seiler, and figured by Von Ammon, in which the upper lid was so extremely long as to overhang the margin of the lower.

ECTROPIUM is a very rare congenital malformation. Two German writers, however, Loschge and Schütte, have figured cases of the turning out of the tarsal margin, as existing at birth. In appearance, the congenital form of the affection presents nearly the same characters as that subsequently acquired by disease in after life. In Loschge's case there likewise existed lagophthalmus, and the palpebral fissure was partially closed, while in a case submitted by Von Ammon the



contrary appearance was presented, for there was imperfect development of the globe or microphthalmus, and strong divarication of the lids, together with great eversion, as shewn in the preceding wood cut.*

* Loschge.—See *Isenflamm's und Rosenmüller's Beiträge, z. Zergliederungsk.* Bd. 1.

Schütte.—*Gräfe und Walther's Journal.* Bd. 9.

Von Ammon.—*Klin Darstell Angeboren Krankheiten.*

ENTROPIUM and TRICHIASIS in new-born infants, I have myself observed, and in the Number of the *Dublin Journal* for March, 1844, I published a case of this description, for which I was indebted to Dr. Nixon. I may here remark, that as far as my own observation extends, and as far as I have been able to gather from the writings of others, it would appear that the foetus *in utero* is liable to a great number of the inflammatory diseases of the eye. We know that entropium is most frequently the result of chronic inflammation, thickening and contraction of the conjunctiva lining the palpebræ, and this may take place within, as well as without the womb.

The following observation accords with the fact which I have described, though, strange to say, its learned author, in the latter part of the sentence, denies the possibility of this being a congenital affection:—“*Die Augenlidränder sind in einer späten Periode des Fötuslebens stark nach innen gewendet; dauert dieser Zustand über die Norm an, so kann eine schwache Spur von Entropion congenitum die folge sein; wahres Entropion kommt aber nicht angeboren vor.*”*

Cases of inordinate length and strength of the ciliæ have been noted by some accurate observers; and great varieties of colour have from time to time presented themselves, both in the brow and in the eye-lashes. Instances of pye-bald men as well as animals have occurred. I myself witnessed a very remarkable case of this description in an adult female in the west of Ireland, in whom the eyes and the hair generally were of a dark colour; one brow, however, was perfectly white, the other was half white and half dark brown, and the ciliæ were long, soft, thick-set, and perfectly white. The general contour of the brow, however, depends so much either on national peculiarity or upon the bony structure of the orbit, the superciliary ridge, the muscles of the forehead, and those

* *Die Krankheiten und Missbildungen des Menschlichen Auges*, of the distinguished Dr. Karl Himly, of Göttingen, now editing by his son, Dr. E. A. W. Himly, and coming out in monthly parts.—*Berlin, verlag von August. Hirschwald*, 1843, u. 4.

immediately presiding over expression, that the congenital peculiarities of the eyebrow become the consideration of the student of Lavater or Prichard more than the pathologist or morbid anatomist.

Two peculiarities of the eye must have struck even the most superficial observer, viz., that in which the brows are scanty, light-coloured, and set widely apart—and that when they are dark, full, and bushy, and meet over the root of the nose. These, though occasionally seen among all races of men, and even in the same family, are in some races so marked and frequent, as to become national peculiarities. Dr. T. S. Sömmerring, in his splendid engravings of the eye, represents the eye of an Albino as a type of the former, and the latter is certainly more common among the Tartar, Persian, and Jewish races than any other. A remarkable instance of the total deficiency of eyebrows is mentioned by an old German writer.* Maderosis or complete baldness of the brow and ciliary margins has been likewise observed by oculists as a congenital deformity.

I have not been able to find more than one notice of adhesion of the eyelids to the eyeball, commonly called SYMBLEPHARON: it is that lately observed by Rognetta (*Cours d'Opthalmologie*), in which the conjunctiva of both lids adhered intimately to the globe, and covered over most of the cornea, which also presented an opaque, muco-secreting surface in the interval between the tarsal margins, which were from two to three lines apart. A small channel at the outer angle formed an outlet for the tears.

Instances of ANCHYLOBLEPHARON, or concretion of the tarsal margins to one another, were remarked upwards of one hundred years ago by Banister, Heister, and others. “I have seen,” says Mr. Middlemore, “three cases in which the tarsal margins have been coherent from birth. The defect has

* Friderici.—*Monstrum human rariss in tabula exhibet.* Lips. 1737, p. 10.

occurred in both eyes ; *the eyelashes have not been formed*, and in the situation of the intertarsal slit there was a narrow sulcus, lined by a delicate vascular portion of skin, which admitted of extension but not of absolute separation. In one of these cases the eyeball appeared to be very imperfectly developed, for the lids were scarcely at all convex externally, neither was there any proper globe to be felt through them. In two other examples of this malformation, the eyeball appeared to be adequately developed, but to be firmly adherent to the globe,* inasmuch as the very limited movements of which it was susceptible, occasioned an evident dragging of the eyelid." Beer mentions his having operated on cases of congenital anchyloblepharon, but it seems more than probable, that in at least one of the cases recorded by Mr. Middlemore, there were no globes at all.

Mr. Travers says he saw a remarkable instance of co-adhesion of the tarsi " in a full-grown boy, whose eye was found perfect after the division, though he had been thus blind from his infancy. It is similar to the co-adhesion of the nymphæ or labia pudendi, and the closed anus in new-born infants;" from which it would appear that he considered it congenital. St. Yves, Benedict, Wenzel, and many others, mention congenital anchyloblepharon; and record cases that occurred in their practice. I have never, however, met an instance myself. Dr. Hocken of London narrates a curious and unique case of partial anchyloblepharon in an infant, then about three months old, in which a small filamentary portion of integument, occupying the site of the junction of the outer with the middle third of the left eyelids, produced this unnatural adhesion of their edges. It was not thicker than a common sewing thread, and in all other respects the eyes were perfectly healthy and normal.

Himly thinks this concretion or adhesion of the margin of the lids arises, as he says, "from too great sharpness of the

* A misprint, we presume, for *palpebræ*.

liquor amnii ;” but any inflammation in the edges of the lids occurring during their closed condition in the uterus, would very easily explain the cause of their adhesion.*

Here, however, a very interesting anatomical investigation presents itself as to the mode of growth in the embryo, and the precise condition of the eyelids in the foetus. Among the most distinguished anatomists and embryologists of modern times, opinions are at variance; and too much stress has, perhaps, been laid on observations made on the lower animals. The analogies of these have, however, led to many interesting hypotheses, while the accurate observations (often conducted under the field of the microscope) of J. F. Meckel, Von Walther, Weber, Arnold, Burdach, Von Ammon, and Serres, upon the human subject, enable us to explain many, heretofore unaccountable congenital pathological phenomena. Many of the feline tribe, we know, do not separate the lids till some days after birth. The younger Himly tells us in his recent publication, that this union of the tarsal margins is sustained by a continuity of the palpebral conjunctiva; and that there is an intimate vascular connexion he was convinced by a happy injection which he made in the eye of a new-born tree martin. This normal condition is, in all those animals which keep the lids shut from the ninth to the fourteenth day after birth, removed by absorption; perhaps, in like manner, with

* Middlemore,—*Treatise on Diseases of the Eye*, vol. ii. p. 842.

Banister,—*Chirurgical Works*. London.

Beer,—*Das Auge*. S. 37.

Seiler,—*Bildungsfehler d. Augen*. S. 34.

Travers,—*Synopsis of Diseases of the Eye*, p. 104.

Wenzel,—*Manuel de l'Oculiste*, tom. ii. p. 155; who says, “*cet accedent est un vice de conformation.*”

Hocken,—*Lancet*, vol. ii. 1840-41, p. 919.

Œhne,—*De Morbis neonatorum Chirurgicis*. Lips. 1773.

Himly,—*Augenkrankheiten*, 1844. Various other authorities are quoted in this latter.

the *membrana pupillaris*. It was believed by Meckel and Von Walther, that such was the natural condition of the human eyelids at an early period of foetal life—closed by a vascular and membranous connexion;—any arrest of developement, therefore, at this very early period, will readily account for the existence, at birth, of *anchyloblepharon*. That the human eyelids stick together, or are adherent at their edges, even to the fifth month of uterine existence, all observers agree, but whether their connexion is owing to internal vascular continuity, external continuity of the skin, or mere mucous adhesion, is still a disputed point. Vicq d' Azyr, Sprengel, and others, assert, that originally the skin is entire and without cleft or fissure over the eyeball, and without any sign or mark of either tarsus, ciliæ, or glands; and such, it is remarkable, was the condition of a case of *anchyloblepharon* operated on and recorded by Mr. Middlemore.

Burdach's observations lead him to believe, that up to the eighth week of foetal life the general skin of the body covers, without interruption, the organs of vision; that then, two fine lines are perceived traversing the horizontal diameter of the globe of the eye, and these, in the eleventh week, become well-marked lines of demarcation of the upper and under eyelids. In the fourth month the lids are bound together by the cuticle; in the fifth month the epidermis gives way, and by the end of this month their separation is determined. In another place he asserts, that in the eleventh week they stick together by their borders through the adhesion of the meibomian secretion, and the continuity of the epidermis.*

Von Ammon believes, that in the eighth month they are closed by a process similar to that observed in the pupil, and that by a condition of absorption like that which takes place in the membrane of the iris, the lids are opened, or at least

* S. Burdach,—*Physiologie*, Bd. 2. Leipz. 1828. S. 376. *bis*. 397.

cease to be closed by either membrane or any glueing material. The writer of the article *Développement de l'Œil*, in the recently published volume of the *Encyclopédie Anatomique*, states, that the lids are free till the beginning of the third month; that then, the skin passes smoothly and completely over them, at first assuming the characters of conjunctiva, and that at the end of the tenth week, the eyelids commence by folds, which by the end of the fourth month cover over the globe, and are glued together by meibomian secretion (Arnold), but that in the inferior animals they completely adhere. The lachrymal gland appears, according to the same authority, about the second half of the fourth month. After this period the eyelids separate, and in the sixth month the ciliæ are visible.

PHIMOSIS PALPEBRARUM, is a term applied by Kirnberger, Von Ammon, Himly, and others;* to a natural defect of the eyelids, in which the palpebral aperture is evidently too small. It has been found in connexion with microphthalmus and atrophy of the bulb, in which case the lids are much sunken, and the rima palpebrarum is very narrow, or it may exist together with a naturally formed globe, in which case the affection is too evident to be mistaken. Some difficulty may arise in recognizing this defect from partial congenital anchyloblepharon, but the want of a definite line to mark the edges of the original eyelids, will assist in distinguishing it from that disease. Chelius of Heidelberg has recorded three well-marked instances of this affection, which is not to be confounded with another somewhat similar, but differing from Blepharophthalmosis, in being merely a semilunar fold of the conjunctiva, joining both the lids, and occupying the external angle of the

* Kirnberger,—*Abhandlung über Phimosi Palpebrarum*. Mainz, 1830.

Von Ammon,—in *dessen Zeitschrift*, Bd. 2, s. 140, and in *Hecker's Literar. Annalen*, Bd. 13, s. 83.

Chelius,—*Handbuch der Augenheilkunde*, Bd. 2, s. 26.

eye, as the valvula semilunaris does the internal, but its free margin is quite unattached to the globe. This disease, of which the accompanying woodcut affords a good example,



is described by Von Ammon in his *Angeborene chirurgische Krankheiten des Menschen*.

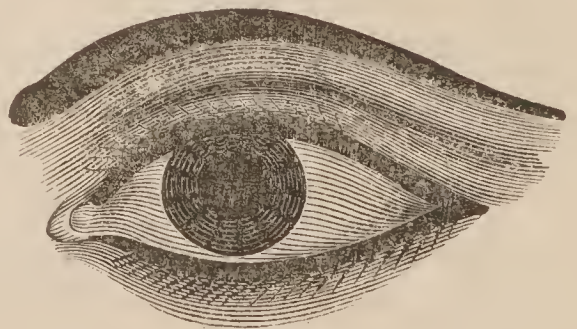
Himly asserts that Blepharophimosis is the normal condition of certain families of the human race, and specifies the Mongolian; yet from what I have observed of this extensive people, the only nations of that family, in whom I am aware that this peculiarity exists, are the Samoides of the extreme north of Europe, on the Siberian coast. In general, the true Mongolian people have remarkably long, narrow, palpebral apertures, the external angles of which turn upwards, much more so than the rest of mankind, as is well exhibited in the present Chinese and Japanese. The ancient Egyptians too, as may be seen in the numberless representations still handed down of that people, possessed a similar remarkable peculiarity, and even increased it by prolonging the angle of the



aperture with a line of dark paint, as represented by the accompanying wood-cut, from a sketch of the eye of Sesostris, taken from one of the Egyptian tombs; while even

the modern Egyptians retain a portion of the same custom, as we see by the annexed engraving.

There is, however, scarcely an abnormal condition of the form and position of the brow, the lids, and the globe, which is not to be observed as the stereotyped character of particular races, either living or extinct; in the almond-shaped eye of the Copt and Abyssinian, the long, linear, elliptical pal-



pebral fissure of the Chinese, the small sunken eye of the American Indian, and the large, full, blue eye of the unmixed Celt.*

* I am inclined to believe that the ante-Celtic aborigines of the British Isles, and Ireland in particular, had dark hair and complexions, and in all probability, dark eyes also. The most ancient Irish MSS. tend to confirm this view, which is likewise held by Molbeih, Eschricht and Retzius, the most distinguished northern antiquaries of the present day. Certain it is, the crania of undoubted Irish origin, as for instance, those found in ancient tombs and barrows, have remarkably high, well-marked superciliary ridges, with exceeding development of the attachments of the occipito-frontalis muscle, as exhibited in this sketch from one of the ancient skulls in the museum of the Royal Irish Academy. From this



bony contour, and from the expressions in the MSS., as well as some existing remains of our early people, I am induced to believe that they had full, bushy, dark, arched brows—probably meeting in the centre. The orbit in those ancient Irish heads that have come to light is very Mongolian in shape; and I am not quite clear, but that the present Samoide people, still inhabiting the northern shores of Europe, are the existing remnants of the first or earliest inhabitants of the British Isles, who, driven northward by the following (perhaps Celtic) wave of population, passed over from this country through Denmark, Norway, and Sweden (where they also rested and left many remains), to their present locality. This however, is but conjecture; time, the examination of the monuments, antiquities and crania of both people, and above all the exploration of our magnificent collection of MSS. in the Academy Library, will, I feel convinced, decide this question. *Eochaidh Abhadh-ruaidh*, or Eochaidh of the red eyebrows, an ancient Celtic king of Leinster, is thus designated in the MSS.; as also *Eibhlin-na-Suile-Gleoir*, or Ellen of the black eye, and the blue eye—a peculiarity often observed in the present day.

LAGOPHTHALMUS, or such shortening of the upper lid, as to render the complete covering of the globe impossible, has been several times remarked in new-born infants, but the pathological anatomy of the affection: whether the result of disease, or arrest of development, has not been explained. Mr. Middlemore and B. W. Seiler have both observed this affection; the former says: "I have several times witnessed a rigid and contracted state of the eyelid, independently of the existence of a cicatrix, or of inflammation, or of any injury to the part. Sometimes it has affected only one, and in other instances, both the palpebræ. When it affects both eyelids, there is a state of lagophthalmos, or shortening of the palpebræ produced, just as though the orbicularis palpebrarum were paralysed; but when it only affects one lid, the motions of the other are perfect, and the eyeball is pretty completely covered, particularly if merely the lower palpebra be affected with this singular rigidity of its integument. In a few instances it has given rise to ectropium as the individual has advanced in life; but this occurrence is a very unusual one." Von Ammon has never seen a perfect case of it, but figures and describes one from Loschge. Thomas Sömmerring and Rosas have likewise recorded cases.*

Complete absence of the eyelids has also been observed, but in connexion with so many other faults and malformations of the globe, orbit, and head generally as not to require or deserve notice as a special congenital affection.

COLOBOMA PALPEBRÆ, or cleft eyelid, though a very rare affection, was mentioned by the old English surgeon, Banister, near a century ago, who says that this part is sometimes cleft in the centre in a perpendicular direction, as occurs in hare-lip. Several cases of this description, but in a much minor

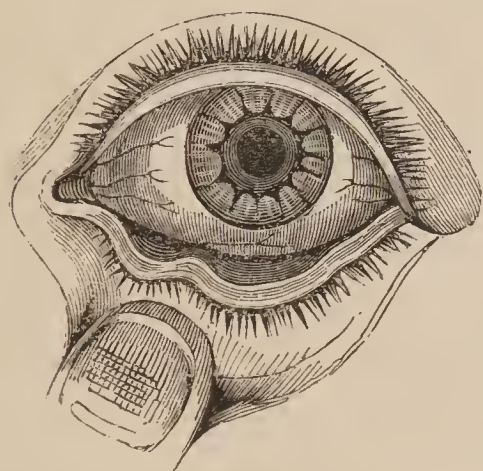
* Middlemore,—*Treatise on the Diseases of the Eye*. Vol. ii., p. 841.

Seiler,—*Beobachtung. ursprüngl. Bildungsfehler*.

Loschge,—In *Isenflamm und Rosenmüllers, Beitr, z. Zergliederungsk.*—Bd. 1, s. 318.

degree, have been figured by continental authors since then. It has only been observed in one eye at a time, and is frequently to be found in connexion with hare-lip, and similar vices of conformation of a light character.

As in hare-lip, so in cleft eyelid, it is chiefly and generally confined to the upper. Heyfelder found it in conjunction with hare-lip and coloboma iridis. St. Yves and Beer have noticed instances of cleft eye-lid, and the sketch beneath is copied from Von Ammon's great work, who, how-



ever, asserts that coloboma palpebræ occurs as well in the upper as in the lower lid, and states this remarkable similarity to hare-lip, that as in it the mucous membrane turns outward along its margin, in the same manner that it does in the red border of the normal lip, so the ciliæ, and other

peculiarities of the tarsal margin, dip into and border the unnatural cleft, as well as the rest of the natural tarsus.

Blasius of Halle, has described a malformation under the name of ECTOPIA TARSI, consisting of a fold or reduplication of the conjunctiva of the upper lid, which, extending from canthus to canthus, and falling like a curtain over the front of the globe below the margin of the upper lid, obscured the greater portion of the cornea. As the learned Professor had never seen the person (a woman, aged 37), during life, it is very doubtful whether it ought to be recorded as a congenital deformity or not. From his own description it appeared to me not unlike an old ptyregium crassum. No account could be obtained from the friends of the person who was the subject of this disease.*

Alterations in the colour of the eyelids, styled BLEPHAROBYSCHOREA, are not uncommon affections: they are generally the result of NÆVI, the well-known disease of the cutis,

* Von Ammon.—*Zeitschrift für Ophthalmologie*.—Bd. 4, 1834, p. 160.

and may, as when they occur on other parts of the body, be divided into the erectile and the non-erectile, the passive and the active, or the cutaneous and sub-cutaneous. They may occur on any part of the external surface of the eyelids, varying in extent, colour, and elevation, from that of a small spot, of a purple hue, occupying the border of the tarsus, to a tumour the size of a walnut, but in shape and colour resembling a ripe mulberry, and engaging the entire lid, or even proceeding from and often filling up a portion of the orbit. So many, and often such contradictory names, have been applied to *nævus maternus* of the eyelids, both congenital and acquired, that the superficial or inattentive reader is liable to fall into error, not only in nomenclature, but in a practical and diagnostic point of view; and in a disease of this nature, often endangering life, yet frequently proving innoxious, it is of the utmost consequence rightly to understand its peculiar nature, its seat, and its varieties. *Angiektasia*, *Telangiektasia*, *Tumor fungosus sanguineus*, *Morum congenitum palpebrarum*, *Gefäss-Erweiterung*, and *Balggeschwulste*, are applied to this disease by the Germans—the *Tumeur erectile* of the French, but Maunoir distinctly calls it *Fungus hæmatodes*; while among English and American surgeons it is known as the *Aneurism by anastomosis* of John Bell, its original describer, *nævus maternus*, *aneurisma racemosum*, and *varicose aneurism*, &c. Mr. Middlemore, as would appear from his work, considers *nævus* and *varicose aneurism* as distinct from *aneurism by anastomosis*. Much of this confusion of names appears to arise from the peculiarity of the seat, the active or passive character, the colour, and the predominating vascularity of the tumour, as whether it is venous or arterial.

This congenital disease often appears as a small, irregular, slightly-raised, pale red mark on the lids, but increasing somewhat in size, and particularly in depth of colour (frequently assuming a bright scarlet), on the infant crying or making any exertion;—or, it may be raised, and of the shape

and colour of a ripe raspberry, or even a bunch of red currants, to which it is often likened, from the usual superstition with which, as a "mother's mark," it is regarded by the unprofessional. In this latter case it is generally active, of an erectile nature, with arterial vascularity predominating, having a firm pulsatory feel, and attended by increased temperature, and, generally, rapid growth. In others, the venous capillaries are chiefly the vessels of which it is composed, and their purple hue has caused it not inaptly to be likened to a mulberry (the *morum* or *maulbeerförmige Geschwulst* of the Germans); it is cold, of a sponge-like doughy consistence, and easily emptied of its blood by pressure: it seldom enlarges, or if it does so, it is very slowly. But it is not alone the external surface of the lids which is the seat of this peculiar vascular arrangement; besides those parts already enumerated, the conjunctiva and the globe itself are liable to its seizure, where it may appear in a congenital as well as an acquired form; and in a case related by Dr. Mackenzie, "the tumour was most prominent on the conjunctival surface of the lid." When in the orbit it is naturally more formidable. It is unnecessary to cite individual cases of this disease, as English medical literature is particularly rich in them, and to Englishmen our continental neighbours are indebted for the very best descriptions of it. Messrs. Wardrop, Abernethy, Hodgson, Bell, Travers, Dalrymple, Lawrence, and Brodie, as also Drs. Warren and Mussey, of America, have all afforded cases sufficient for a complete description of the disease. Among the cases of Dyschorea may be mentioned a remarkable one, figured by Von Ammon, of a congenital discoloration of the skin, of a diamond shape, and a bright yellow colour, occupying exactly the same position on both sides, and situated just over the upper puncta. Another is that of a bright-coloured nævus, which spotted over both lids, but without being raised above the surface; another, in which a dark brown colour, like that which is observed on a *mole*, occupied patches of the lid and brow

(*Nævus Lipomatodes*). From the drawing, and his own descriptions this appears to have been more of a *mole* than an aneurismal tumour, and the hairs of the brow were continued down on the lid, nearly to the ciliary border; the brown colour likewise advanced over the tarsal margin to the conjunctiva. But by far the most curious case figured by this writer is one which came under his own observation, in which all the non-transparent tissues of the eye, as well as the lids, both within and without, were stained of a deep blue, much deeper than that exhibited in the general morbus cæruleus, and proceeding, in all likelihood, from some disease in the orbital veins.

MALFORMATIONS OF THE LACHRYMAL ORGANS.

Malformations and congenital diseases of the secreting and excreting lachrymatory apparatus are of exceeding rare occurrence, except in those instances in which there is some well-marked arrested development in those parts of the organs of sight to which they are subservient. *Trichiasis carunculæ lachrymalis*, or the growth of hairs from the caruncle, is reported by authors as a congenital defect; but the anatomical fact of several small light-coloured cilia, growing from the surface of this conglomerate mucous gland, is so well established at present that few writers will fall into this mistake for the future, or apply the term disease or malformation to what is evidently a natural and regular occurrence. "Each duct," says Mr. Dalrymple, in his admirable treatise on the anatomy of the human eye, "is garnished with a minute hair planted close to its orifice." That these hairs do, occasionally, in after life, assume an irregular and morbid growth, so as to excite considerable uneasiness in the inner canthus of the eye, is a well-established disease, though one of exceeding rarity, and to this the term *Trichiasis Carunculæ* may with justice be applied; but certainly not to the ordinary, though minute growth of hair, which may always be found, by accurate observation, covering the second lachrymal gland, as in olden times it was denominated.

ANGIEKTASIA, or NÆVUS, has likewise been mentioned in works as affecting the caruncle, in very young children (I believe, at birth), forming a purple, mulberry-shaped swelling, and instances have been adduced by Malacarne and Seiler of the affection called *Rhyas*, arising from deficiency of the caruncle at birth: but in both the cases recorded by these writers there were other co-existing faults of the lachrymal organs. Plenck considers it a very rare congenital defect.*

ABSENCE OF THE LACHRYMAL GLAND.—The lachrymal gland, which, according to the writer of the article *Développement de l'Œil*, in the *Encyclopédie Anatomique*, is first recognizable in the first half of the fourth month of uterine existence, has been found wanting at birth; and a total deficiency of this organ is on record as far back as the year 1721, when Botin, in the Memoirs of the Academy of Sciences of Paris, related a case of this arrest of development, but in connexion with deficiency of the globe and congenital anchyloblepharon. Himly adduces the authority of Lycosthenes, Thomas Bartholinus, Storch, Spielenberg, and Hoffmann, in support of the fact of anophthalmous children being also deficient in lachrymal secreting apparatus.† And J. Adam Schmidt, in his valuable work on the *Thränenorgans*, considered *Dacryops*, or mucocele of the lachrymal sac, as frequently arising from congenital disease.

ATRESIA PUNCTI LACHRYMALIS, or complete occlusion of both ducts and puncti has occurred in a congenital as well as an acquired form. Morgagni, in his *Epistolæ* (Ep. 13, na. 27), relates a case in which all four puncti were closed. Mr. Travers says: "I have seen a congenital deficiency of the puncti, but the case is very rare: obliteration is much less so."‡ Otto, Anel and Jurine likewise establish the fact.

* Plenck.—*Doctrina de Morbis Oculorum*.—Vienna, 1777.

Malacarne.—*I systemi del Corpo umano*, &c.

† Himly.—*Lo. cit.* Bd. 1, s. 275.

‡ Travers.—*Synopsis of the Diseases of the Eye*, p. 238.

While these pages have been passing through the press, Dr. Marks, of this city, showed me the case of a young girl, with the upper punctum, on the left side absent, and the papilla in which it is usually situated, also deficient.

FISTULA LACHRYMALIS.—In Blasius' Zeitschrift, for 1837, we find a very remarkable case of *fistula canaliculi lachrymalis*, set forth by Dr. Behr, of Bernberg, in which a small fistulous opening, of a size sufficient to admit a hog's bristle, and through which a drop of fluid continually distilled, existed in the inferior lachrymal canal at birth: this is, I believe, a unique case.

Dupuytren once observed a congenital imperforate condition of the nasal duct; and in Walker's cases of congenital deficiency of both eyes, noticed at page 35 of this Essay, he says, "when the children cry, copious lachrymation takes place, proving the existence of a lachrymal gland, but the tears always roll down the cheeks in consequence of the non-existence of the *puncta lachrymalia*." Although his inference of the tears rolling down the cheeks during the act of weeping, does not bear upon the point in question, still his statement of the fact of the non-existence of puncta, is sufficient evidence.

Before we enter upon the consideration of the vices of conformation, the result of arrests of development in the globe of the eye, it may not be amiss to inquire what the embryologists say as to its precise mode of growth, and the order in which its various structures and tunics are created, as well as the metamorphoses they subsequently undergo.*

Two hypotheses are at present held by the learned, those of Baer and Huschke. According to the former, the visual

* For the latest and best article on this subject, I must refer the reader to the work of that able ovologist and profound anatomist, Professor Bischoff,—“*Entwicklungsgeschichte der Säugethiere und des Menschen*—Leipzig, 1842, 8vo. 575 pages; or to the eighth volume of the *Encyclopédie Anatomique*, containing the researches of Bischoff, Henle, Wagner, Valentin, Vogel, and other distinguished German anatomists, and translated by M. Jourdan, Paris, 1843.

organs in man and quadrupeds appear first as two small excrescences on the floor of the first cerebral cellule—the future optic tracts; from these spring two conical projections, which bury themselves on each side of the embryo head; of these the anterior portion becomes the optic bulb, and the posterior the nerve. With this early conformation results the analogies of the dura mater with the sclerotic and cornea; the lamina fusca and the membrane of Descemet with the arachnoid; the choroid with the pia mater; and finally, the retina with the actual cerebral substance.

The opinion of Huschke, on the contrary, is more complex; it is, that both eyes spring from one simple primary rudiment, that is, from a depression formed by the original dorsal nervous laminae, separating, before their dilatation in front (the primary cerebral cellule), and again uniting so as to form a small cavity. This cavity or vesicle is closed by a very fine thin membrane, but a posterior foramen keeps up a free communication between it and the original cerebral cellule. The ocular vesicle separating from the cerebral, and increasing in size, the latter presses on the posterior margin of the former (the ocular), and gradually divides it into two portions, which becoming more and more distinct, and the canal, or communication between them, also separating by the pressure of the cerebral cellule, the two parts or organs are ultimately and completely divided from each other on the development of the supra and infra-maxillary bones. The eyes, according to this observer, are not, then, as Baer supposes, prolongations of the original medullary tube, but are, like it, produced by the development of the dorsal plates themselves (Bischoff). The visual organs thus once formed, these two authors are nearly agreed as to their subsequent development. According to Huschke the rudimentary eyes become apparent before the end of the first day, and as Baer perceived them at the 36th hour, it is possible the observation of the former may be correct, and that of the latter be owing to the later period of his observation,

when, probably, the separation “*deux espèces d'excroissances*” had been completed by the pressure of the cerebral vesicle. The phenomenon of cyclops is decidedly opposed to the theory of Baer, and in support of that of Huschke. Valentin and Seiler's researches accord with this latter also. Arnold says the eyes are not to be discerned at all in an embryo a line and a half in length ; and Bischoff, in his minute examination of the embryo of the dog and rabbit, asserts that the eyes are distinct from the very first ; he says that at the period of the very first perception of the cerebral vesicle, two prominences can be observed upon it, which, in a future stage, presents a heart-shaped projection, the apex of which is turned toward the dorsal portion of the rudimentary nervous axis, and the anterior, shoulder-like extremities of which become eyes. As these protuberances are prolonged from the original medullary tube and cellule, their anterior, closed, bulbous extremities become globes, and their posterior, narrow stalks, which are also at first tubular, solidifying, become optic nerves ; no distinct envelope or sclerotic can, however, be discerned in the human embryo till the fifth week, at which period there is no distinction into transparent cornea and opaque sclerotic, but the two are confounded together, and present a blueish translucent appearance till the beginning of the sixth week, at which time the cornea begins to be more convex and transparent.

A line of separation marks the difference between those two membranes, according to Ammon, in the second month, but in the opinion of Valentin not till the fourth ; and it is remarkable, that the proportional curvature of the cornea is greater in the foetus of twelve weeks than at any subsequent period of either intra or extra-uterine life (Gescheidt and Wimmer). The proportional thickness also is inversely as the age, which Meckel attributes to the accumulation of a reddish fluid between its laminæ, whereas the sclerotic is much thinner during embryotic life than afterwards, hence its early bluish tinge, owing to the subjacent pigment. At

this period is also seen most manifestly the “*protuberantia sclerotalis*” of Ammon, caused, it is thought, by the inclination of the globular axis toward the optic nerve, and, therefore, producing a bulging of the sclerotic toward the external side of the entrance of the nerve. This appearance, however, gradually diminishes with the increased development.

According to the observations of Valentin, both sclerotic and cornea are formed from cellules metamorphosing themselves into fibres, which afterwards interlace, and assume in their subsequent appearance all the characters which these membranes present at birth.

Having thus far briefly noted the earliest formation and subsequent growth of the optic bulbs, we are now in a position fully to understand those arrests and congenital defects which present at birth in this organ, and which are to be considered under the head of

ALTERATIONS IN THE SIZE, THE FORM, THE STRUCTURE, AND
THE POSITION OF THE GLOBE.

MICROPHTHALMUS and MEGALOPHTHALMUS. *Microphthalmus* is the term applied by continental writers to that peculiar condition of the eye, when there appears to be an arrest of development of this organ at some particular period of its growth, without either atrophy or disease, but when at birth, although the eye may appear natural in all its parts, and, perhaps, perfect as an optical instrument, it does not bear the usual proportion which that organ does to the rest of the body. Three varieties of this affection have been enumerated by the best writer upon this subject, (Gescheidt), first, where the arrest took place at an early period of embryo existence, when the iris was just forming, and therefore in all such cases the iris is generally wanting; the second occurs at a more advanced period, when the iris has been formed, but not completely closed, and, therefore, with this condition of microphthalmus, we generally find coloboma iridis, or cat's-pupil. The third is where all the parts are natural, but there is frequently a false or irregular position of the pu-

pil, and also faults of the colour and structure of the iris generally. In microphthalmus the posterior segment of the bulb is smaller than natural, and the eye is preternaturally lengthened in the longitudinal diameter. Seiler, and Otto of Breslau, have shewn, that with this peculiar conformation of eye, there is likewise a vice, or malformation in the bones of the upper portion of the face, which is preternaturally small, and the bones of the orbit smaller than usual, irregularly placed, and undeveloped. In one dissection, the levator palpebræ was wanting, and the lachrymal canals have also been found closed, or but rudimentary, in such cases.

In the annexed representation we have a very good example of the appearances and peculiarities of this affection, in a girl 12 years of age.



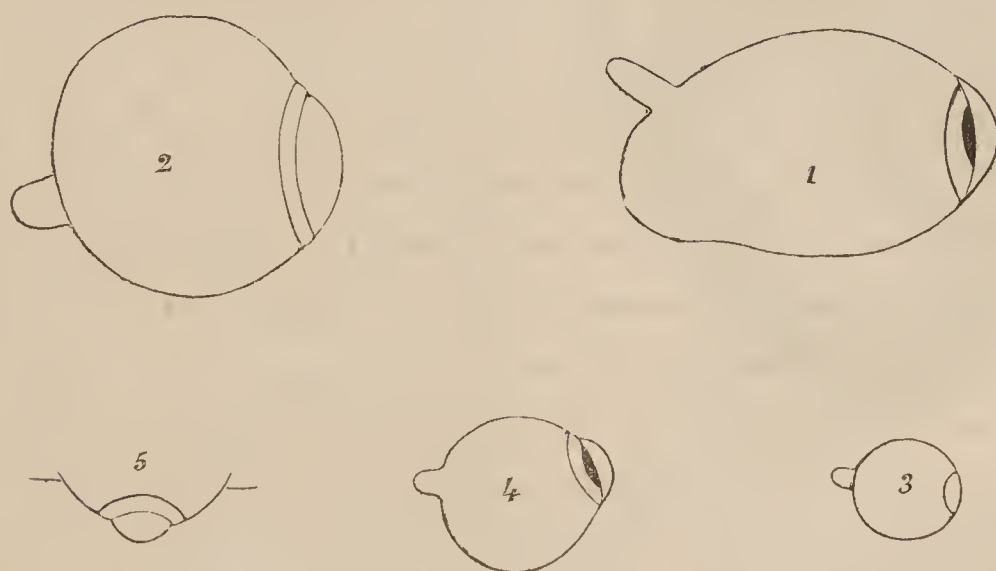
Here there is considerable irregularity of the orbits themselves; both globes are preternaturally small, the right being by far the lesser of the two; both upper lids are affected with Blepharoptosis, probably from the want of sufficient support from the bulbs they cover. In the right, this is so marked that the globe is completely obscured, and in the left the cornea is more than one-half covered: the palpebral fissures are likewise very irregular, their external angles inclining upwards much more than natural. In both eyes there existed irregularity of the pupil, in form as well as in position, that in the right being triangular, and that in the left transversely oval.

Von Ammon relates a case of a brother and sister born with microphthalmus; Pœnitz, that of a four-week old child, with the left eye one-half larger than the right. The cases of two brothers are likewise recorded by Himly.

The German periodicals of the last fifteen years abound in such cases, recorded by Schoen, Fischer, Weller, and others. In most of these cases the little bulb lay deep in the socket, and in several the rima palpebrarum was too small.

Besides the general diminution of the bulb, there is often connected with it irregularity in the growth or development of particular parts, and also in their relative proportions to one another; thus, the cornea has, in cases of microphthalmus, been found, in proportion to the sclerotica, too large, and in others too small. The elder Himly has related several such cases.*

Independent of arrests of development, we find congenital microphthalmus, arising from disease *in utero*, and presenting one or both bulbs diminished from atrophy or synchysis; here, however, the case is manifest; there is generally hard cataract, of a flake-white colour, with discoloured, irregular, and often immoveable iris, with choroid disease, and other evident marks of disorganising inflammation having gone on in the eyes while the child was still in the womb.



The drawing above exhibits profile views of the five most remarkable forms which the human eye has presented

* Gescheidt,—*Angeborne Krankheit der Augen in Zeitschrift für. Ophthalmologie*, Bd. 2, Heft. 2, s. 257.

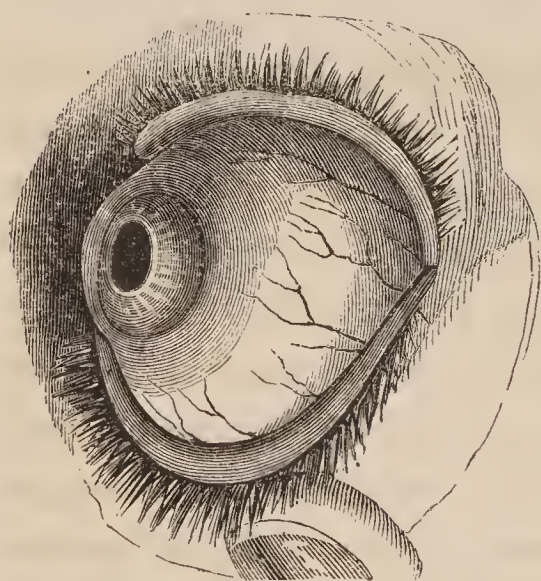
Weller,—*in Meckel's Arch.* 1830. H. 2, 3, s. 179.

Von Ammon,—*Darstell. der Angeb. Krank.*

Himly,—*Krankh. u. Missbild. d. Mens. Auges*, Bd. 1, s. 528.

at birth, as deviations from the normal condition of that organ. Figures 3 and 4, however, are those most applicable to this division of the subject.

MEGALOPHTHALMUS, or BUPHTHALMIA, is applied to that congenital condition of the globe when it appears too large in comparison with other parts of the body, and the head especially. It is a rarer affection than that of the over small eye; it differs from it in being more frequently found singly or in one eye at a time, and in being not an arrest of development, but a congenital pathological appearance, the result of disease of the bulb alone, as in hydrophthalmia, or connected with hydrocephalus, or other diseases of the brain. The peculiar goggle-eyed appearance of this disease, and its also occurring in adult life, renders any minute description of the characters which it presents unnecessary, particularly as this engraving affords a very tolerable idea of the most usual appearance of the affection.



The person from whom this drawing was taken was a boy ten years old; the left eye was of the natural size (see *Von Ammon, Bd. III., Taf. III., fig. 6*), the sclerotic was thin and bluish, like what it presents in the embryo of four or five months; the cornea was likewise of a lesser curve than

natural, and resembled that in a foetus of the third month, as I described at page 28. The iris is pressed forward into the anterior chamber. This disease is reputed to be hereditary. Mr. Laurence says, "I have seen the chambers unusually large, with the cornea transparent or slightly nebulous, as a congenital malformation in children otherwise healthy. Jüngken says he knew a Swedish family in which seven brothers were affected with congenital dropsy of the anterior chamber, while the parents and two sisters have no defect in their

eyes." The pathology of HYDROMAGELOPHTHALMUS, or that form of eye-dropsy connected with water on the brain, is explained by Huschke by the fact, that where this disease was present, he found (as in the early stages of foetal life), a small tube or canal leading from the ventricle to the interior of the eye, by which means the fluid of the former communicated with, or gravitated into the latter, as I have explained at page 27.

This form of disease has been described by Demours and Von Ammon; in both it, and the preceding, vision is generally very much impaired, but more so in the former; yet a young friend of mine, in this city, who is affected with a preter-development of one eye, sees best with that. Acephalous foeti, owing to the want of the supra-orbital ridges and anterior portion of the cranial bones, generally present the characters of megalophthalmus, as do also hydrocephalic children, in whom I have generally observed that the eyes are turned downwards.

In most instances of megalophthalmus the curvature of the globe is irregular, presenting a bulging at one or two points, as we see exhibited in the profile sketches, Nos. 1 and 2, at page 31, in the first of which we have the *protuberantia sclerotalis* of Von Ammon, so well marked that we may reasonably conclude the preter-developement occurred about that period when this embryotic appearance is most observable, that is, about the fourth month, whereas microphthalmus would appear to be an arrest of growth at an earlier epoch; in the latter, the relative proportions of all the parts of the organ are preserved, while in the former—the megalophthalmus, (which is evidently a pathological appearance), the greatest disproportion of parts prevails.

Some instances of the complete absence of both eyes, ANOPHTHALMUS, have been recorded by British surgeons. In 1831 Mr. Walker communicated to the *Lancet* the cases of two children (sisters), the one five years of age, the other four months, in whom both eyes were completely wanting,

the orbits being filled up with condensed cellular tissue ; the lids were normal and well-formed, but naturally collapsed for want of the support of the globe ; the lachrymal glands were present, but there were no lachrymal passages. Four years afterwards a case very similar is recorded by Mr. Davy, and death occurring a few months subsequently, we are indebted to this gentleman for the following interesting autopsy :

There was but one olfactory nerve present, “the optic commissure was placed more posteriorly than natural ; the sella turcica being much anterior to it. From its forepart and in the median line, the rudiment of a nerve was continued ; it was of a loose texture, and a scarlet hue, as if from injection of its vessels. It proceeded into the substance of the pituitary gland, where it was lost. Several small blood-vessels pressed through the foramen opticum ; the fissura lacera transmitted, both into and out of the orbit, the ordinary nerves and the ophthalmic vein. Nothing else of interest presented itself within the cavity of the cranium.

“The orbital roofs were then removed, and disclosed the presence only of condensed cellular tissue, which, when cautiously dissected away, exposed the several small muscles, which naturally belong to the organs of vision, supplied with their respective nerves ; the periosteum and cellular substance, lining the internal parietes of the orbit, afforded the muscular attachments, in place of the tunica sclerotica. It is particularly worthy of notice that on neither side was the levator palpebræ superioris present. As we were compelled to avoid disfiguring the face, it could not be ascertained whether or not the orbicularis palpebrarum and the corrugator supercilii muscles existed. No further examination took place.”

My esteemed friend, Mr. Estlin, of Bristol, has just communicated to me a similar case. He writes:—“A few years ago a child was brought to me, born without eyes, and with hardly any thing else but cellular membrane, apparently, within the orbits.”

Those conversant with medical literature will recollect

many early notices of this deformity, which is by no means a very uncommon occurrence. Cases are related in the *Monstrorum Historia*, published at Frankfort in 1609; in the lesser works of Haller; in Thomas Bartholinus's Natural History of Rareties; in Hufeland's Journal (1818); in the Memoirs of the Royal Academy of Paris; in Malacarne's book *I sistemi del Corpo umano* (1803), from which I have already quoted; by Rudolphi in the Transactions of the Royal Academy of Berlin (1826);—and in most of the anatomical and pathological museums on the Continent, specimens of eyeless children will be found. Vicq. d'Azyr remarked a case of anophthalmus, in which, not only were both eyes deficient, but the foramen opticum was imperforate, the orbits were preternaturally small, and the mouth very much less than usual. V. Walther has described two cases, in one of which there was also congenital anchyloblepharon. Otto mentions a case in the collection of Breslau, in which there was also congenital malformation both of the mouth, and the upper and lower extremities. Biermayer in his description of the anatomico-pathological collection of the Viennese University, describes two instances of anophthalmous children; in one of them there likewise existed hydrocephalus, and it had neither mouth nor nose: the other had cleft palate. On examining the authorities on this subject, I find congenital deformities of the mouth a very frequent concomitant, with deficiency of the optic bulbs. In a dissection made by Schön of Hamburgh, in 1828, of an anophthalmus, the brain was normal, as were also the 3rd, 4th, 5th and 6th pairs of nerves, but the optic nerve was wanting; the orbits were completely filled with fat and cellular membrane, and in this cellular membrane appeared all the motive apparatus; the muscles were all distinctly recognizable, but in a very thin, attenuated condition. The frequent occurrence of closed eyelids in connexion with absence of eyes, may explain, in some measure, the mode in which these appendages are originally

opened—viz., by the pressure of the globes against the tarsal edges, causing absorption of their lining membrane.

Anophthalmus of one eye (not monocus) is a much rarer vice of conformation; yet a case of this nature was described by Klinkosch a Bohemian surgeon, in 1766, and three others have been since recorded by Rudolphi, V. Walther and Peringer. In all these there was manifest defect of the orbital parietes on that side.*

In the museum of the College of Surgeons, in this city, there is a preparation (D. b. 250) of “two pieces of chalky matter—the only remains of the eyes of a Guinea pig which had been born blind.”—(*Houston's Catalogue*).

Some physiological speculations have been put forward, by continental writers, to account for this arrest of development, which, as well as the faults (*Fehler*), or defects of the orbit, will be considered under the head of monocoli, and the malformations of the muscles under that of strabismus.

The globe of the eye may be congenitally altered in form and position by nævus maternus or aneurism by anastomosis attacking its tunics, or by fungus hæmatodes enlarging and protruding it, but as the former presents all the particularities which have been considered when describing that affection occurring on the lids (see page 22), it is unnecessary here to particularize it: and as the latter has not, that I am aware of, been so far advanced at birth as to cause any manifest alteration in the size, or form, or position of the globe, it appears to me more in accordance with the classification laid

* Walker,—The *Lancet*, vol. ii. 1831–2, p. 169.

Davey,—The *Lancet*, vol. ii. 1835–6, pp. 52 and 293.

Botin,—*Memoire de l'Acad. d. Sciences*. Paris, 1721.

Vicq. d'Azyr,—*Memoire de l'Acad. d. Sciences*. Paris, 1776.

Beer,—*Das Auge* Wien, 813, s. 57.

Biermayer,—*Mus. Ana. Path. Nosocomi Universat Vendobonensis*, 1816.

Seiler,—*Beobachtungen ursprunglicher Bildungsfehler*. Dresden, 1833.

Himly,—*Krankh. u. Missbild. d. Mens. Auges*, 1843.

Rau,—In Von Ammon's *Monatsschrift*, Bd. 3, H. S. 50.

down and endeavoured to be pursued in this Essay, to consider it under the head of diseases of the retina—in all probability, its primary seat. We therefore advance to the abnormal peculiarities which the MOTIVE APPARATUS of the globe presents at birth.

I cannot find an instance of the complete absence of all the muscles which move the globe, in an eye otherwise healthy and natural; for even in cases of the total deficiency of the visual organs, rudimentary muscles have been observed. One of the few records bearing on this point will be found in Dr. Houston's Catalogue (G. a, 23): it is that of a preparation in the Museum of the Dublin College of Surgeons, of an ancephalous human foetus, in which "the entire of the calvarium and brain was absent, and the top of the head looked like the surface of a recently cicatrized ulcer. The spinal marrow and nerves were well-formed; the eyes were large and prominent, and the vessels of the conjunctiva very turgid with blood; the eyelids were perfect, the superior constituting the highest point in the head; the eyeballs were also perfect; *but most of the muscles*, and the upper part of the orbits, were absent,"* &c. &c. This interesting preparation affords additional proof of the position put forward by Huschke and Baer, as I have explained at page 27, of the optic bulbs being derived from the original dorsal laminæ of nervous matter, at the top of which we find the primary cerebral vesicle, and therefore the globes of the eyes may be perfect in form without any remnant of brain, whereas the nerves that supply the motive apparatus being, as a necessary consequence with the want of brain, deficient, the muscles which they govern are likewise absent; so that we have many instances on record of the muscles being present in children born with brains, although the globes into which they would have been attached

* Descriptive Catalogue of the Preparations in the Museum of the Royal College of Surgeons in Ireland. Dublin, 1834, vol. i. p. 149.

were totally absent. Had a recent examination of the eyes of this foetus, which is supposed to have been at about the seventh month of gestation, been made, it would have been of considerable value in reference to the growth and development of this organ, and the iris, in particular, which from want of the ciliary nerves, we would predict would have exhibited some arrest of developement.

Since the adoption of the operation for strabismus, much attention has been paid to the pathological condition of the muscles in the orbit; but few of the abnormal appearances described by authors appear to have been original, and not acquired defects after birth. And those attachments of one to another; or the blending of two muscles into one, as the levator palpebræ with the superior rectus, the trochleator with the internal rectus, and the trochleator itself with the trochlea, &c. appear to be also acquired pathological conditions (Morgagni and Wrisberg); but instances have recently been recorded, by good authorities, of decided false insertion, and also bifurcation of the internal rectus at its sclerotic extremity (Dieffenbach); of the external rectus being *double* (Zagorsky), and also the superior oblique (Albinus); while Caldani saw, more than once, an additional muscle, which, from its insertion and use, he has denominated *M. detractor palpebræ inferioris*; and both recti and both obliques have been found wanting, in cases of monstrosities, by Seiler and Colomb.*

NYSTAGMUS, or oscillatory motion of the eye,† is a con-

* Olbers,—*Disser. de Mutationibus oculi internis*.—Göttengen, 1781.

† I know not why two of the most distinguished writers on ophthalmic subjects in Great Britain, have considered and described this disease under two separate and distinct heads, as constituting two different kinds of motion. Doctor Mackenzie in his late edition says:—"In Oscillation the eyeball is affected with an almost perpetual *rotatory* motion round its antero-posterior axis, and seems to be produced by the antagonising action of the oblique, the recti having lost, in a great measure, their control over the eye." (p. 291). And under the section Nystagmus, he writes; "this term is used to signify an involuntary motion of the eyeball from side to side." Surely the pendulum-like or "oscillatory" motion,

stant and well-marked symptom in those born blind. It is an attendant upon congenital amaurosis, but the disease with which it is most frequently connected is congenital cataract, in which the eyes roll from side to side in a uniform and synchronous manner, as if seeking light around. Generally speaking, this is the most commonly observed character of the motion, but I lately witnessed, in a case of congenital fungus hæmatodes of both eyes, a very peculiar condition of the muscular apparatus, in which the globes were principally rolled upwards, instead of from side to side. So well marked was this affection, that it attracted my attention among a large number of persons sitting in the waiting-room of a dispensary. I have lately seen a similar form of

is more applicable to this affection than to the former, which is not, in fact, an oscillatory, or swinging, but a positive rotatory action; both however, are frequently combined, but the motion from side is not only the most obvious, but in congenital cataract is often the only one present. Mr. Middlemore likewise notices them under two separate sections, and describes Nystagmus as an affection, “wherein the eye-ball is not rolled to and fro in the way I have just pointed out (oscillation), but is pulled from side to side by the action of the recti muscles:” (vol ii. p. 570.) Mr. Lawrence appears to take the clearest view of this affection, for, under the class of irregular motions, he says, “an irregular movement of the eyes from side to side, of involuntary character, seen in those born blind—unsteady or involuntary movements,—&c., either oscillatory or of irregular character—have been designated by the term *nystagmus*” (p. 770). In fact the exceeding latitude allowed to the word (which is derived from *νυσταζω*, to wink), would, according to the definition of Kuhn, permit of its being applied to constant or irregular movements of either eyelids, globe, or iris.

I have been led into this lengthened explanation lest it might be supposed I had confounded the two terms. That a slight rotatory motion does exist, in connexion, with marked oscillation, in some cases, I am fully aware; and in the trembling or shaking eye, in which it looks like an artificial eye placed at the end of a fine spiral wire spring, it is really as difficult to say what is the exact motion, or set of motions, as it would be to define those of the object I have used as a simile. In the most confirmed and violent involuntary action of the eye-ball, there are three apparent motions—the full sweep from side to side, or Nystagmus; the lesser quick vibratory action from time to time; and also with this, the semirotatory.

Nystagmus in a child affected with hydrophthalmia and opaque cornea. In this case the mother asserts that when the child was born its eyes were in a healthy condition ; but this statement I am very unwilling to receive, as there is evident malformation in several other organs, and the head in particular. The child, which is resident in North King-street, in this city, though upwards of six years old, and hearing tolerably well, has not yet attempted to speak, and has only now commenced walking by assisting herself with the furniture of the room. A friend of mine possesses a small King Charles's dog, in which, from the effects of a scald, both lids of one eye have grown together by their tarsal margins, and are also united with the anterior surface of the globe. In fact, it has got both symblepharon and anchyloblepharon, and in this case the nystagmus, or rolling of the eye underneath the skin of the eyelids, is very perceptible, although the other eye is perfectly natural, and unaffected by any such spasmodic or tetanic affection.

In albinos, in the human subject, the oscillatory motion is nearly always present in a greater or less degree, increasing, however, with the intensity of the disease, and being less when any portion of colouring matter is developed. In some instances, where there is a total absence of all colouring matter, and the eyes are of a brilliant pink, the motions are so quick that we can scarcely follow them with the eye ; in others, the eyes roll inwards and outwards leisurely two or three times, the corneæ making a complete sweep of the palpebral aperture, and then rapidly move eight or ten times in a lesser circle, and also in a semirotatory manner.

I know not whether the remark be original, but it has struck me as curious, that in albinism in the lower animals, particularly the ferret and rabbit, where the colourless iris and choroid are just as apparent, and the vascularity just as intense, there is neither nictitation nor oscillatory motion of the globe.

LUSCITAS, or fixing of the globe in one particular position, although recorded as a family defect, has not been described, that I am aware of, as existing at birth.

Various abnormal and pathological conditions of the recti and oblique muscles, such as atrophy, paralysis, hypertrophy, shortening, lengthening, tonic contractility, irregular insertion, an over-tendinous or over-fleshy condition, and so forth, have lately been dwelt on, by the writers on Strabismus, as if they were congenital defects; but where these effects have not been observed at birth, it is scarcely fair to attribute their subsequent condition to any intra-uterine malformation or disease.

A young wild-duck, as I have often seen, will run about as briskly, avoid objects, pick up food, and exhibit all the effects of perfect vision, a few minutes after emerging from the shell, as the parent bird; so will several other animals; but it is very doubtful whether the human infant can discern objects distinctly until a considerable time after birth, and therefore, so long as this imperfect vision remains, so long as this indistinctness of perception continues (which period it is impossible accurately to determine), we have a constant want of parallelism of the globes, or a tendency to slight strabism or irregular action in one or both eyes. I remember, when a pupil at the Lying-in Hospital, several years ago, observing this in the new-born infants, who were generally laid down opposite the fire before they were dressed and given to their mothers. Hence this irregular action, from the inability of the child to fix the eyes steadily on any object, producing strabismus of various kinds, divergent and convergent, double or single, but, in general, the convergent kind prevails. This disposition to irregular action of the eye or eyes wears off with the power which the eye acquires of being fixed on particular objects, and also with the experience gained by the young animal.

One of the most frequent and popular errors (and it is one

common even among the Profession), is that the great majority of cases of squinting are congenital; yet I believe a rarer form of congenital disease scarcely exists—and where it does prevail at birth, it is generally the result of some diseased condition of the sensorium, such as congenital hydrocephalus, and then, most likely, it would affect both globes—Von Ammon has figured a case of this nature, (*Bd. III. Taf. xv. Fig. ii.*) where the choroid and sclerotic were likewise affected, and there also existed nystagmus. I have never heard of an authentic case of *strabismus divergens congenitus*, nor do I think it likely to occur, from what I have observed of the condition of the eye, and the causes producing this variety of squinting in the adult.

The varieties of functional disease, such as one retina being weaker than another, seldom present, at least we are not cognizant of their existence, till after the infantile period, and the varieties of adapting power of the eye which might produce strabism, are mostly all acquired subsequent to birth or infancy.

Most mothers, particularly those in the lower ranks of life, when they bring their children for operation, affirm that they “had it always,” or that they “never remember them without it;” yet when questioned closely, admit that it appeared suddenly in a convulsive fit—or during dentition; or when something went wrong with the digestive organs; or on the appearance of worms, &c. &c.

(*To be continued.*)

ART. II.—*Two Cases of chronic Inversio Uteri, one of which was successfully treated by Ligature, with Observations.* By ALFRED H. M'CLINTOCK, M.D., F.R.C.S.I., Assistant Physician to the Dublin Lying-in Hospital.

[Read before the Dublin Obstetrical Society.]

I TRUST that no apology will be necessary in bringing before the Society any contribution, however trifling, upon the sub-

ject of inversion of the uterus, a malady so distressing in its symptoms, and so fatal in its tendency, if allowed to advance unchecked. Under this impression I have been induced to lay before your notice the particulars of two cases of chronic inversion of the womb; in one of which the inverted uterus was removed by ligature in the ward of this hospital appropriated to the diseases of females; and the other derives its interest chiefly from these two circumstances; first, that an unsuccessful attempt was made to revert the displaced organ; and secondly, because that it presents a striking example of what may be considered the usual course of the disease, when unarrested by the interference of art.

For the history of this latter case I stand indebted to Doctor Johnson, under whose care and observation it was for a considerable time. It affords me much satisfaction to be able to shew to the Society the uterus of each of these patients; the one as removed by the ligature, and the other as taken from the body post mortem.

The first case is that of Mary Byrne, ætatis 24, who was admitted into the chronic ward of the Lying-in Hospital August 30, 1844. The history of her case is briefly this: five years previously she was confined of her second child, which was dead born and premature, being not quite eight months. For the last six weeks of her pregnancy, she had repeated attacks of flooding, and in the early part of her labour, also, there was considerable hæmorrhage.

As far as could be gathered from her own statement, it would appear that the child presented preternaturally, and after a continuance of the labour pains for thirty-two hours, that the attendant used some forcible manual assistance to accomplish the delivery of the child and removal of the placenta. The following morning (i. e. in ten or twelve hours), upon her attempting to get up, a tumour made its appearance from the vagina, but was immediately replaced again. Owing to her state of debility, a period of several weeks

elapsed before she was able to leave her bed and resume her usual avocations, and during the greater part of this time the tumour was constantly in the habit of prolapsing whenever she used any exertion, but would return upon her ceasing to do so. When her health and strength were sufficiently re-established, to admit of it, namely, in about ten weeks after her delivery, she got up and very soon after this began to have discharges of blood from the vagina.

From that time up to the date of her admission, including a period of five years and upwards, these attacks of hæmorrhage had been recurring every four or five days invariable quantity; sometimes moderate, but always very profuse after using bodily exertion, or during the flow of the catamenia, on which latter occasions the discharge continued for ten or fifteen days consecutively.

Her general health, when admitted into hospital, was tolerably good, considering the great demands that had been made upon her constitution, and for such a lengthened period. Her face was pale and blanched, but there was no very obvious emaciation of her body, and the pulse, though weak and very compressible, was but little accelerated above the healthy standard. She suffered much, however, from constant aching pain in the back, and not unfrequently had headach, very distressing nausea, or even vomiting. Any exercise, even though moderate, was sufficient to bring on palpitation of the heart, and to increase greatly the rapidity of the circulation. Whenever she strained, or used any expulsive effort, she became sensible of the presence of a tumour in the vagina, but at no other time had she such sensation. During the intervals of the shedding there was some mucous discharge, but nothing remarkable as to quantity or colour.

Upon making a vaginal examination, a globular tumour was readily felt, round which the finger could be freely carried, and encircling the upper portion (which was smaller in

circumference than the part below) the os uteri was plainly perceptible. When a catheter was passed up between the os and what may be called the neck of the tumour, it was very soon completely arrested, and this was found to take place no matter at what point in the whole circumference the instrument was pushed up.

When the tumour was gently handled no complaint was made, nor indeed did she seem conscious of what was done; but if rudely pressed some uneasiness was produced, and the small of the back referred to as its seat. The surface of the tumour was of a deep red colour, and had a rough, somewhat villous appearance, and a sanguineous discharge was distinctly seen issuing from it at numerous points. At the time of this examination the catamenia were upon her.

I should mention that this woman was sent up from the country as a case of *procedentia uteri*; but from her history, and a careful review of all the symptoms, and results of physical examination, the conclusion was come to that it was a case of partial inversion of the uterus, and it was finally determined that extirpation should be attempted. Accordingly, on the 18th September, Dr. Johnson applied a ligature of strong fishing line round the neck of the tumour, by means of Gooch's canula; after it was tightened she complained of some pain in the back, and a slight discharge of blood attended the operation. The canula was left between the anterior part of the tumour and the vagina. In the afternoon she had so much sickness of stomach, and pain in the back and uterine region, that the ligature had to be loosened, by which great relief was obtained. The evening of the following day it had to be relaxed still more, in consequence of continued nausea and pain in the lower belly. Notwithstanding that the ligature was thus loosened, the discharge had become foetid on the second day after the operation; upon this same day the pulse was a little increased in frequency, and in the evening she had a slight rigor. From this time forward, she pre-

sented nearly the same group of symptoms ; varying only in degree. There was frequent nausea ; the pulse was always somewhere between 100 and 120, but had no other character of inflammation ; the tenderness in the hypogastric region was constant, but though of unequal intensity at different times, yet it is worthy of remark that the extent which it occupied never increased ; and lastly, the source of the greatest distress was the pain in the lumbar and sacral region, and for a few days before the ligature came away, she represented this as being most intolerable. The discharge, when fully established, was highly offensive, and of a very acrid nature, producing great irritation in the vagina, and the pain thereby occasioned tended very materially to aggravate her suffering. To lessen this as much as possible, the vagina was syringed daily with tepid water, to which was added a small quantity of solution of chloride of soda. In consequence of the great amount of pain which she suffered, and the extreme soreness of the vagina, the canula was altogether removed on the eleventh day, leaving the ligature around the tumour in a deep groove which it had already formed for itself. Two days after, Levret's canula was substituted in the place of Gooch's ; little advantage, however, resulted from this, as every attempt to tighten the ligature was followed by such an aggravation of the pain and sickness of the stomach, as obliged us to desist.

To relieve the more urgent symptoms of pain and loss of rest, opiates had constantly to be given, and latterly, indeed, their administration was indispensable. Within the first two or three days, the catheter had to be passed twice or thrice, but after this it was not again required.

On the 18th day it was found that the neck of the tumour was more than half cut through ; and on the 28th day Dr. Johnson divided with a bistoury the portion that remained included in the ligature, which was very small, but as we were anxious, if possible, to preserve the tumour from injury, its removal from the vagina without occasioning an increase of pain

to the patient became a matter of no small difficulty. This arose partly from the large size of the tumour, which about equalled the head of a five month foetus;* and partly also from the extremely tender and irritable state of the vaginal membrane. After several unsuccessful attempts, with such means as the exigency of the moment suggested, it was at last extracted by the aid of a bone forceps, one blade of which was placed in the cavity of the tumour, and the other on its exterior surface.

From this time forward, nothing could go on better or more satisfactorily than she did. Within four or five days, the pulse was down to the natural standard; the tenderness in the hypogastric region had gone away, and the use of the anodyne rendered unnecessary, and in fact the only remaining source of complaint was some slight pain in the back, and soreness of the vagina; the former of which subsided of itself and the latter got well by syringing with astringent injections.

A vaginal examination, made three weeks after the removal of the uterus, found the os tincæ a little open, and much resembling the state it is in eight days after parturition. On the 15th day after the ligature came away she was up, and on the 26th day, permission being granted her to go out for a short time, she thought fit not to return, considering herself too well for the wards of an hospital. Having taken her seat in the canal boat she started forthwith to Longford, her place of residence, and, as we afterwards learned, bore the journey remarkably well. On the 27th November, that is upwards of six weeks from the time of the completion of the operation, she was seen at my request by Dr. West, Surgeon to the County Longford Infirmary, who informed me that

* The difference between the size of the tumour as here stated, and what it is represented in the drawing, is owing to its having been put into pure spirits of wine, immediately after its removal, which caused it to shrink and contract most remarkably. This was done as the most certain means of preserving the uterus, which was much softened by putrefaction at the time of detachment.

she was then in the enjoyment of excellent health, her only source of uneasiness being a slight feeling of weakness in the back. In commenting upon this case, I would beg leave to notice two or three points of practical interest, which appear to deserve particular attention; one of these was the comparative insensibility of the tumour upon an ordinary examination, thus shewing how little value can be attached to this symptom as a diagnostic between polypus and inversio uteri. In fact, the diagnosis in the case just related, was grounded mainly upon, 1st, the fungous appearance of the tumour, and the circumstance of a sanguineous fluid exuding from numerous points on its surface; and, 2ndly, the result of an examination made by passing up between the os uteri and neck of the tumour a blunt instrument, which (as already mentioned) was soon arrested, and at nearly an equal height all round. Another feature worthy of note was, that from the time the ligature was put on all hæmorrhage ceased, and this appears the more remarkable, when we recollect that within a few hours from its first application it had to be relaxed, and during the greater part of the entire period that it remained round the tumour, it was quite loose. This fact is not only interesting, but important, as confirming an observation* of the late Dr. Joseph Clarke, namely, that "the pressure of the ligature is capable of restraining the discharges," although it may not be practicable to continue it sufficiently long to effect the removal of the inverted organ. A case exactly illustrative of the point in question is related by Dr. Ramsbotham,† in which the ligature had to be removed within twenty-five hours, owing to the supervention of violent peritoneal inflammation; nevertheless the profuse sanguineous and leucorrhœal discharges, in a great measure, ceased, and the patient regained the enjoyment of very good

* *Ed. Med. Jour.* vol. ii. p. 421.

† *Midwifery*, p. 542.

health. It has been already stated, that the os tincæ was examined three weeks subsequent to the detachment of the tumour, and that its condition was found to be very similar to that of an os uteri eight days after delivery. In connexion with this observation it is interesting to note, that Mr. Windsor in his case (recorded in the Med. Chir. Trans. vol. x.) also made a vaginal examination about ten weeks after the removal of the uterus, with a view to ascertain the state of the vagina and os tincæ, and he says that the latter "did not appear to deviate at all from the healthy condition;" further on he adds, "that its long diameter was directed laterally, and would admit the tip of the middle finger." This is the fifth instance in which Dr. Johnson removed the uterus; and in all the former ones the ligature was composed of fine, well-annealed silver wire and silk twisted together, and applied by means of Leveret's canula; but in the present case Gooch's canula, with a flexible ligature, was used, and owing to the greater facility which this instrument affords, the ligature was put higher up round the tumour than in any of the previous cases. A knowledge of this fact will serve to explain why, with this patient, the vomiting and pain were more constant, and the necessity for keeping the ligature slack more imperative than with any of the others upon whom he performed the operation.* In every

* Of the five cases to which allusion has been made, two, the first and second, are recorded in the Dublin Hospital Reports, vol. iii.; the fifth is that related in the text; and the third and fourth were never yet published. Dr. J. has favoured me with their particulars, and I make no apology for briefly detailing them here. Case III. was in the person of a young woman of the better class in life, with whom the inversion had occurred after her third child. The practitioner who attended her was a very timid man, and whenever any delay took place in the coming away of the placenta, was always in the habit of pulling the funis, through fear of the necessity of introducing his hand into the uterus. When Dr. J. was consulted the complaint was of more than two years' standing, and she was greatly reduced, and her health much impaired. There was emaciation, cough, and œdema of the lower limbs, besides the pain and profuse vagi-

future case it would be well to have at hand various means calculated to extract the detached tumour out of the vagina. For this purpose it has occurred to us that some modification of the fillet might be advantageously used, as with it no hurt could be inflicted on the vagina, or injury to the tumour; but this latter, perhaps, will appear to some a matter of very secondary importance.

The favourable result of the operation in this case tends strongly to establish its value, and also to furnish additional proof of its efficacy in combating this formidable complaint; indeed I would remark that the number of instances in which the uterus had been successfully extirpated for the cure of chronic inversion, is now pretty considerable, insomuch as to entitle the operation to an equal confidence, and to place it

nal discharges. As the existence of tubercle in the lung was suspected, the late Mr. Colles was called in to give his opinion upon the point, and he came to the conclusion that she was not consumptive. I must mention that at this time the use of the stethoscope was not at all known in this country. After this declaration of Mr. Colles, the operation was determined upon, and the ligature accordingly applied round the tumour, which came away on the tenth day. She recovered the effects of the operation perfectly, and went to the country, where her health was still further improved; but at the end of six months the cough and expectoration returned, and in three months more (that is nine months from the date of the operation) she died, with all the symptoms of phthisis. The preparation of this uterus was placed in the school museum of the College of Surgeons, but, I believe, has been since lost.

Case IV.—This was an elderly poor woman living in Clare-lane, who had had the uterus partially inverted for many years, and was very much broken down by the continued and profuse discharges. Dr. J. was brought to see her by the late Surgeon M'Namara. At this time she was slightly maniacal, which was attributed to the unusual copiousness of the hæmorrhage of late. As it was agreed that extirpation held out the only chance of prolonging her life, the ligature was put on the uterus by Dr. J. A considerable length of time elapsed before it came away, so that the tumour, when removed, was decomposed and softened, to such a degree as to render its preservation impossible. The result of the operation was most satisfactory—the maniacal and other symptoms speedily disappearing. Within a comparatively short period after the separation of the uterus, her health and strength were quite re-established.

on the same footing with any of the other major operations in the practice of surgery.*

The second case is that of Mrs. E——, ætat. 31, who was delivered in the country of her first child, on the 25th of September, 1840.

The only particulars that could be learned were, that her labour had been very tedious, requiring the use of instruments for its completion, and that some difficulty was experienced in the removal of the placenta. Her convalescence was rather slow, and in the first week, besides other symptoms of which I need make no mention, she had much nausea and occasional vomiting; and throughout this period, and subsequently, whenever she assumed the upright position, she expressed herself as having a very “unpleasant dragging sensation” in the uterine region. It does not appear, however, that any suspicion was excited in the minds of her attendants as to the real cause of these symptoms. At the expiration of three weeks she was up and out, and in a few days afterwards, whilst busying herself in the preparations for a journey, she got an attack of hæmorrhage from the vagina, consisting principally of large clots of blood. As soon as she had recovered from the immediate effects of

* Amongst the examples of successful extirpation of the uterus, we may cite the following:

Mr. Hunter's case,—*Duncan's Med. Annals* for 1799.

Dr. Clarke's case,—*Ed. Med. Journal*, vol. ii.

Mr. Newenham's case,—*Essay on Inversio Uteri*.

Mr. Windsor's case,—*Med. Chir. Trans.*, vol. x.

Dr. Gooch's case,—*Account, &c.*, p. 263.

Mr. Chevalier's case,—*Merriman's Synopsis*.

Mr. Baxter's case,—*Med. Phys. Journal*, vol. xxv.

Dr. Johnson's five cases.

Dr. Esselman's case,—*Dub. Med. Journal*, Sept. 1844.

Dr. J. G. Crosse's case,—*Prov. Med. Journal*.

Mr. Hurst and Dr. Hull's cases in *Blundel's Obst. Med.*

this, she set out from home and came to Delgany—a distance of about ninety miles; which journey she performed in two successive days. On the second day after this she was walking in the garden, and upon making some slight exertion, was suddenly seized with a violent hæmorrhage and faintness, and at the same time a tumour made its appearance externally beyond the vulva. Dr. Mitchell was immediately sent for, and seeing the formidable nature of the case, advised that Dr. Johnson should be called in; who, upon careful examination, ascertained that the uterus was partially inverted, and that superadded to this was a prolapse of the entire organ. Having replaced the uterus within the vagina, which was accomplished without difficulty, he recommended her removal to Dublin so soon as her strength was sufficiently recruited. This advice was followed in the course of a few days; and after her arrival in town she was seen by Dr. Benson and Sir P. Crampton, the latter of whom was of opinion that an effort should be made to revert the displaced organ. Accordingly on two consecutive days, in the eighth week from the time of her labour, he tried to effect the accomplishment of this object, but without succeeding. These attempts occasioned great pain at the time, and were followed by most distressing irritability of stomach, and alarmingsyncope, which, with some intermissions, continued several days. From this very depressed condition she rallied after the lapse of a week, when she got a return of the flooding, and lost a good deal of blood. As soon after this hæmorrhage as she had regained sufficient strength to render her removal safe she was taken to Kingstown for change of air, in order if possible to bring her health into a state fit for the application of the ligature, as in her present condition this was utterly out of the question. Here (at Kingstown) she ceased to be under the care of Dr. Johnson, but was visited occasionally by Dr. W. Adams, to whom we are indebted for the further

particulars of her case, and also for the preparation of the uterus.*

From the time of her coming to Kingstown in the month of December, until her death, which took place in the early part of July following, her history presents but little variation, and its minute detail would be only tedious and unprofitable. Suffice it to say, that there was no permanent improvement, but on the contrary each successive week found her more reduced and more debilitated than the week before. During this time the most prominent symptoms were, the hæmorrhages, the irritability of stomach, and the mucous discharge; the two former of which always seized her at each return of the menstrual period, and continued for several days, whilst the mucous discharge was observed to take place during the intervals. Under the influence of such wasting discharges it could not be expected that she would hold out very long. After lingering on in this manner for about six months, she expired on the 1st July, 1841; it being nine months from the time of her confinement.

This case is so instructive, and the information it conveys so plain, as to leave little necessity for comment. We shall, therefore, make only a few observations upon it. In a practical point of view one of the most interesting features in the history of the case is the formidable symptoms that were induced by the attempts at reversion, though made by a skilful and dexterous hand. This seems clearly to justify the conclusion that such an operation is capable of producing the most unpleasant and even dangerous consequences, and hence ought not to be undertaken without having duly and carefully weighed the probability of its success. There is one instance recorded in which this displacement of the uterus was rectified so late as twelve weeks after delivery;

* We have thought it unnecessary to give a drawing of this preparation, as it is closely represented by Denman's plate of a partially inverted uterus.

but this, I believe, is only a solitary example, and certainly ought not to have much weight in deciding upon the propriety of resorting to a measure, which, if it does not succeed, may add so greatly to the suffering, if not the danger of the patient. The failure in the case of Mrs. E., where the period that had elapsed was not eight weeks, and where the degree of inversion was very partial, and the operator a man of acknowledged ability, tends very forcibly to strengthen this opinion. As contrasted with the first case related in this paper, the symptoms were much more acute, and hurried the patient on more rapidly to a fatal termination. This would seem to indicate that the severity of the symptoms cannot be estimated by the amount of displacement; for with Byrne there was a greater degree of inversion than with Mrs. E., and yet the duration of the complaint with the former was upwards of five years, whilst the latter was carried off by it within ten months.

The melancholy result of this case must make it a matter of regret that the ligature was not applied in the first instance, and must contribute to shew the necessity of resorting to this, the only practicable mode of cure, before the patient be so far reduced as to render it an operation of positive danger, or questionable propriety.

In both of these cases it will be remarked, that there was some manual interference by the attendant in removing the placenta, by which, doubtless, the inversion was produced. Indeed I cannot help expressing my conviction that whenever the uterus is inverted at the time of parturition, it is to be attributed to some mismanagement of the delivery of the after-birth; in confirmation of which I would adduce the accumulated experience of Drs. Clarke, Labatt, Collins, Kennedy, and Johnson, in this hospital; which does not furnish a single instance of the occurrence of this accident, though the number of women delivered during their united masterships amounts to upwards of seventy-one thousand! I am happy

to find that the same opinion is also entertained by Dr. Robert Lee. In his published Lectures (p. 425), he says, "I have great difficulty in believing that spontaneous inversion of the uterus can ever take place, for inversion cannot occur if the uterus is contracted even in a slight degree. This can easily be demonstrated, and in examining the bodies of many women who have died soon after delivery, I never saw the uterus in such a state of complete relaxation as to render it possible for the intestines, however forcibly driven against the fundus by the action of the abdominal muscles in vomiting, coughing, or sneezing, to produce the accident. It must be obvious," he continues, "that the uterus cannot be inverted by its own action; there must be something to draw or push it down."

ART. III.—*Some Observations on the Action and external Use of Aconite.* By RICHARD EADES, M. B., Fellow of the Royal College of Surgeons, Ireland, Lecturer on Materia Medica to the Richmond Hospital School of Medicine.

PERHAPS there is no term in which so many synonyms are so vaguely used, as in the generic one, *narcotic*. We find authors indifferently using the terms sedative, anodyne, soporific, and narcotic, so as not unfrequently to render obscure, if not doubtful, the object of their treatment, or the treatment itself. Of these the terms, *sedative* and *narcotic* are more generally confounded and vaguely used, than any other terms in medicine, although they are by many authors clearly defined; but as these definitions themselves not only vary, but also oppose one another in their application, our perplexity is increased, and the attempt to arrive at clear notions is rendered still more ineffectual.

In consulting works upon materia medica this becomes sufficiently obvious; we find some class amongst sedatives, substances which are grouped by others amongst narcotics, and *vice versa*; others consider sedatives and narcotics as synony-

mous. Eberle does not introduce the term sedative at all in his classification. Bellingham, who has decidedly improved upon Granville and Eberle's arrangement of *materia medica*, places sedatives in the class of medicines whose action is principally directed to the circulatory system, and in the order of those substances which diminish its power and velocity, thus opposing them to stimulants or the excitants of the circulation, while he places narcotics among those agents whose action is directed to the nervous system.

It is to be lamented that this distinction has not been generally adopted, for it would not only prevent further confusion, but give to the mind a clear notion of the intention with which such medicines are exhibited; the sedative to depress an excited state of the vascular system; the narcotic to allay an irritable condition of the nervous system. Dr. A. T. Thomson has taken a great deal of trouble to point out the difference between these two classes; but if we consider his arguments, and examine the catalogue of medicines arranged under the head of "Sedatives" and "Narcotics," we find our views not rendered clearer. He says (page 308): "the administration of narcotics is frequently followed by a sedative or depressing effect; but in every instance this is the result of a previous excitement, which is more or less obvious in proportion to the extent of the dose. In small and moderate doses, narcotics augment the force, and increase the frequency of the pulse, promote the secretions, and bestow a temporary higher degree of both mental and bodily vigour; and if the narcotic be administered at proper intervals, this excitant effect is maintained. In a short time afterwards, however, the transitory nature of this state of excitement is conspicuous, and one of depression or collapse follows, in which general languor, dulness of sensibility, and sleep ensue. When the dose is large, the period of excitement is so short, that the symptoms of diminished sensibility and motion appear as if they were induced without any pre-

vious increased action. This seems to throw difficulties in the way of separating sedatives from narcotics; but as it can be demonstrated, that even in small doses no excitement follows the administration of sedatives, there is no doubt that their operation is perfectly distinct from that of narcotics." He defines sedatives as those substances which directly depress the nervous energy. We here find no essential difference as to systems upon which they act, but merely a modification of action upon the same system, viz., that no excitement follows the administration of a sedative, while there does that of a narcotic. It is obvious (following this line of reasoning) that the object of the exhibition of both classes is, to act upon the nervous system, and thus full scope is given for the indifferent use of these terms. We observe, moreover, that in order to make this distinction, he gives a description of the effects of narcotics, which so faithfully delineates the action of alcoholic liquids upon the system, that one would be constrained, according to it, to place them amongst narcotics.

It would appear then, that the chief cause of the confusion of these terms arises from not classifying, or at least from not speaking of remedial agents, according to the intention with which they are exhibited.

I have been induced, therefore, to make the foregoing remarks, 1st, because I have been frequently left in doubt as to the object of treatment when general terms have been adopted, and the particular intention of their exhibition not defined; 2nd, because the substance aconitum, of which this Article treats, is generally grouped among narcotics, although it does not *stupify*, cause *sleep*, nor produce (directly) *convulsions*; 3rd, to prevent any misunderstanding of the action of this substance, so far as our knowledge goes, I am anxious to have it classified among the *cerebro-spinants*, or "those agents," to use the words of Pereira, "whose primary and specific effect is a disorder of one or more of the

functions of the cerebro-spinal system. To this class, therefore, are referred all those substances which occasion sleep, insensibility, erroneous perceptions, judgments, and volitions, or delirium, stupor, or coma, paralysis, convulsions, &c."

The cerebro-spinants are subdivided according to the nerves, motor or sentient, which they more particularly affect, or the systems upon which they more decidedly display their action. Thus (Pereira) places aconitum amongst those cerebro-spinants which cause paralysis of the nerves of sensation. But as the statements of authors vary considerably as to the effect of this substance, some stating that delirium and convulsions ensue, and that it "resembles strychnine in its effects on the posterior extremities, when administered to quadrupeds ;"* others that it causes neither stupor, delirium, nor convulsions, I was anxious to discover how far the definition of its being a paralyser of the sentient nerves was correct, and to be depended upon ; with this view I made some experiments upon animals, and applied it externally in certain neuralgic affections, of which the following is a detail.

At a meeting of a few medical friends one evening last winter, at Dr. Burton's, Kildare-street, I placed in the cellular tissue of a rabbit about half a grain of aconitina ; in the course of a few minutes a thick viscid mucus hung from the animal's mouth ; in a quarter of an hour the animal appeared to be affected with a weakness of the hinder extremities, which it placed awkwardly under it, as if they were paralysed ; in half an hour it lost completely all sensibility of those extremities, so that a scalpel could be passed through them ; the insensibility quickly extended along the back ; its extent could be traced to a line, posterior to which no sensation was experienced by the animal when pricked, while anterior to this line the animal gave signs of feeling the slightest prick, by spasmodic movements ; in forty minutes the nostrils could be pricked with a needle, and the

* See Thomson's Therapeutics, p. 424.

whiskers pulled, without the animal displaying any sign of being touched; it staggered in walking, but evidently not because the motor nerves were paralysed, for when the animal was raised from the ground by the ears, it kicked the hind legs as briskly, and with as much strength, as it did before it was subjected to the influence of the aconitina. But upon being again laid upon the floor, we observed these extremities to remain motionless in whatever position they happened mechanically to come under the animal. To explain this state, so like paralysis, it was suggested by Dr. F. Barker, that the animal lay as described, and staggered when walking, because sensibility was destroyed, and, therefore, as it did not feel the floor, its movements were irregular. This reasoning appeared to us the more probable, from the fact that the animal held its head quite erect.

2nd. I weighed one grain of aconitina, and placed it in the cellular tissue of the right hind leg of a strong cat; in ten minutes a thick, slimy mucus hung from its mouth; in twelve minutes it refused milk and vomited; in half an hour it retired to a corner, and was evidently very weak and sick; in one hour it began to lose the sensibility of the hinder extremities; and in three hours was quite insensible, when pricked with a needle in any part of the body; even the nostrils, and the inside of the ears could be tickled, or pierced, without the animal giving the least sign of feeling.

The vision was much affected, inasmuch as a lighted candle could be held close to the eye, and no disturbance thereby given to the animal; it remained perfectly motionless, and was, to all appearance, rapidly dying, yet when hunted from its resting place, could run for a short distance, and staggered but little. In this state of perfect insensibility it remained for twenty-four hours, and then began gradually to amend, and in thirty-six hours was quite recovered, except that some degree of weakness remained. The animal's appetite did not return for some days. It would be a waste of time to recount the other experiments, which are in every way simi-

lar: none of the animals submitted to the experiments were purged. (I should remark that the aconitine used in these two experiments was some years made, and having been for some time in a damp room had undergone more or less decomposition. When the aconitine is good it is a very powerful poison, and half a grain placed in the cellular tissue will prove fatal to a cat.) These are sufficient to prove that aconitine acts as a paralyser to the nerves of sensation, and does not cause stupor or convulsions; when the latter occur, they take place a short time previous to death, and appear to be caused by a want of due circulation in the brain. This conclusion is still further confirmed by considering the effects of the root of the *aconitum napellus* which was eaten by Mr. Prescott and family (see Pereira, *Mat. Med.* p. 1339); they were all similarly affected (or nearly so). Mr. Prescott, who had eaten most of the root, and whose case was fatal, had "no cramp, spasm, or convulsion," nor were his mental faculties disordered.

Of the neuralgic cases in which I used externally this medicine, the following is a brief outline.

CASE I.—Mrs. H., of nervous temperament; married six years; had several miscarriages. Upon one of these occasions I was first called to her, in August, 1842. From their effects she quickly recovered; her ordinary health was, however, exceedingly delicate; she was easily fatigued from slight exertion; the opposing passions of her mind, readily excited by trivial causes, always produced serious effects upon her health. About two months after the miscarriage referred to, she again became *enceinte*; fearing another mishap I watched her closely. I found she was subject to severe shooting pains, passing from the sacral nerves forwards and downwards to the pubic regions, and inside of the thighs; the pain was most intense at the symphysis pubis: they regularly occurred at the catamenial period, but were induced at any time by a start, surprise, or unpleasant intelligence. To allay this irritability, I determined

to give the aconitum a trial, as an external application, and ordered the following :

℞ Tinct. Aconiti
 Tinct. Belladonnæ āā ʒ ii.
 Aquæ Rosæ ʒ iiiss. ℥.
 Ft. Embrocatio.

To have a couple of tea-spoonsfuls rubbed upon the sacrum, inguinal regions, and inside of the thighs. In the course of a few minutes there was a complete suspension of pain. For five months she had every fourth week these attacks, and frequently in the interval sudden and severe ones from excitement. It was such attacks as these which caused her former miscarriages, and after the sixth week of gestation, they always excited uterine pains, with more or less of a "bearing down" sensation. Desirous of trying the aconitum alone, I ordered an embrocation containing four drachms of it, omitting the belladonna; equally happy results followed the use of this, but she complained of a numbness, almost amounting to a loss of feeling, in the parts to which it had been applied. I found that belladonna, when used alone, whether in the form of an embrocation or a plaster, to the sacrum, gave no relief. At the expiration of the fifth month these pains returned no more; she arrived to her full time, and became the mother of a strong healthy child.

CASE II.—Mr. —, æt. 35, of full plethoric constitution, and active indoor habits, but seldom taking open air exercise, was subject to neuralgic attacks in his gums, jaws, and cheeks, and somewhat disposed to dyspepsia. Conceiving these attacks to be merely secondary, I treated him in the ordinary way for dyspepsia, but without effect. I then gave a four ounce lotion, containing four drachms of the tincture of aconitum, telling him to rinse his mouth and teeth frequently with a table-spoonful of it lukewarm; and also to apply a piece of lint saturated in the lotion externally over his jaws.

After a few applications the pain ceased. He has had three or four of these attacks, which were always arrested for the time, by similar treatment. He has for the last eight months resided in the country, coming daily into town, since which he has had no return of the pain.

CASE III.—Mrs. W., æt. 22, married, of a nervous temperament, but very healthy, the mother of one child. About the third month of her pregnancy she experienced, from no assignable cause, acute, starting, superficial pains over the hypogastric region ; they increased in intensity, and excited such uterine pains, that she feared she was about to abort. I ordered the aconite lotion thus :

℞ Tinct. Aconiti, ℥iv.
 Aquæ Rosæ, ℥iiiss. ℥.
 Inflic. ℥ss. parti dolenti.

Also apply lint moistened with the lotion to the sacrum.

From the first application she found much relief, and in the course of a few hours, when the embrocation had been used three times, all pain ceased ; she had a few slight returns during the two or three succeeding days, which disappeared on the application of the lotion ; she also (as in the case of Mrs. H.) complained of numbness, and considerable loss of sensation for some days, over the parts where the lotion had been applied, stating that “she could not feel her clothes upon her.” She has had no similar attack since. I have had several accounts from different medical gentlemen, who have tried the aconite in neuralgic affections ; in some it acted happily, in others had no effect at all, but this is only what is to be expected, when we consider the various causes of neuralgic affections. The following case from amongst many will suffice, it was communicated to me by a medical friend.

“A young man, on the 18th June, 1843, was attacked rather suddenly with a pain of a peculiarly excruciating na-

ture over the left eyebrow, which occasionally extended over the same side of the forehead and temple, and also down as far as the zygomatic arch; he described it as appearing periodically during the attack of pain; he also said that the part was a little flushed, with a throbbing of the vessels on that side of his head, and an increase of heat in the part; he could not satisfactorily account for the affection. Finding, on inquiry, that his bowels were constipated, I gave him a bolus of calomel and jalap, and two doses of mist. purgans. June 20th. I repeated the mist. purgans. as the first had not a sufficient effect, and an effervescing mixture of

Decoct. Cinchon., ℥ vi.

Bicarb. Sodæ, ℥ iii.

Sumat ℥ i. è ℥ ss. succi limonis 2dis horis,

in the interval between the paroxysms of pain. 21st. Not much better. Contin. Mist. efferves. and apply twelve leeches over the orbit. 22nd. *In statu quo*; found hardly any relief from the leeches; now applied Tr. Aconiti with lint to the part affected. 23rd. Greatly relieved of the pain; bowels a little confined; ordered him two aperient pills, and a stomachic aperient mixture, with a continuation of the anodyne embrocation. 25th. Pain gone completely; had no return of it whatever; directed him to continue his tonic effervescing mixture, alternating with the powders of valerian and cinchona bark. I have not heard from him since, so conclude that he has had no further occasion for medical advice. The above case struck me as one of those which was purely of a neuralgic character, and as a fair case for the aconite; and from the details I think it is evident he obtained no relief until its application.

“F. B.”

Of the preparations of aconite, the tincture of the root and the alcoholic extract are the most to be depended upon. The preparations, as ordinarily met with, are not to be re-

lied upon. It is the alcoholic extract of the leaves which Dr. Lombard of Geneva has, with success, administered internally in rheumatic affections. From my own observation, I think it is not so strong as the tincture of the root. Dr. Moore, of Anne-street, very carefully prepared the alcoholic extract in the summer of 1842, according to the formula of Dr. Lombard, but as an external application it did not appear to be as active as the tincture of the root. In general one may form a pretty correct opinion as to the probable strength of the preparation, by the tingling sensation it produces upon the lips, and the degree and duration of numbness which follows. Those preparations which do not produce both these effects I have found to be almost inert.

Since writing the above, I find in Christison's last edition (1845) on Poisons, a reference made to a paper* (not yet published) by Dr. Alexander Fleming, a recent graduate of the Edinburgh University, upon *aconitum napellus*. I shall quote these remarks for those who have not seen this edition.

“The ablest investigation,” says Dr. Christison, “yet undertaken into the actions of *aconitum*, is contained in the unpublished inaugural dissertation of Dr. Fleming.” “He found that the most remarkable symptoms are weakness and staggering, gradually increasing paralysis of the voluntary muscles, slowly increasing insensibility of the surface, more or less blindness, great langour of the pulse, and convulsive twitchings before death.”

Further on Dr. Fleming adds, that in medicinal doses it occasions warmth in the stomach, nausea, numbness, and tingling in the lips and cheeks, extending more or less over the body, diminution in the force and frequency of the pulse, great muscular weakness, confusion of sight or absolute

* Prize Thesis on the Physiological and Medicinal Properties of *Aconitum Napellus*. Edinburgh, 1844.

blindness ; and if the dose be unduly large, there is a sense of impending death ; sometimes slight delirium, and a want of power to execute what the will directs, but without any loss of consciousness ; no hypnotic effect is produced, but by inducing serenity or deadening pain, it may predispose to sleep." And again, when speaking of it in doses adequate to occasion death ; " there is a perfect possession of the mental faculties, and no tendency to stupor or drowsiness."

From my own observations, I would thus sum up the most remarkable symptoms, as exhibited by animals : weakness, staggering, gradually increasing insensibility of the surface, slowly increasing weakness of the voluntary muscles, ending perhaps in paralysis, great languor of pulse, more or less blindness, and convulsive twitchings before death.

ART. IV.—*Rare Cases, with Observations.* By L. BYRON, M. D., Surgeon of the County of Meath Infirmary, &c. &c.

THE singularity of a case may be a good reason for its publication ; but its importance is a better ; and, in general, the greater the singularity, the less its importance.

This axiom is, in a general sense, most true in reference to subjects connected with the healing art ; yet facts are not wanting which, although they be extremely singular, are nevertheless of high practical value.

The following cases will, it is hoped, prove the truth of the foregoing rule, and also afford me an opportunity of performing the pleasing duty of giving publicity to certain isolated facts of a practical nature, which I find interspersed through my case-books.

The arrangement here adopted, that of separate Essays, seems best adapted to my design ; and it is my present intention, under Providence, thus to prosecute the arrangement of those miscellaneous cases, as opportunity may be afforded me.

PULMONARY APOPLEXY.*

It is generally supposed that some organic change, antecedent or co-existent—some lesion or change of place or form in the lungs themselves, the heart, liver, or some more remote organ or tissue, can always be traced as giving rise to discharges of blood from the air-passages ; or, if such causes be not discoverable, those appearances are said to be vicarious of other evacuations or discharges ; or they arise from certain specific actions.

This opinion is undoubtedly true in a general sense, and opens a field of inquiry, extensive as it is important, and deserving the further cultivation of those who have the ability and the opportunity of doing so *practically* : but blood is sometimes poured into or expelled from the pulmonary apparatus, independent of any appreciable organic change, action, or sympathy, such as I have referred to, or having been so induced, persists after the withdrawal of such causes.

The terms pulmonary apoplexy ; hæmoptysis, bronchial hæmorrhage, are too often used as synonymous terms.—The distinction *quoad* the first term, is well marked in the following description of that affection by Andral :†—“ There is yet,” he says, “ another species of hyperæmia of the lung,

* The term Apoplexia, from *αποπληττω*, *percutio*, was employed by the Greeks, and is still used to denote a disease in which the patient falls to the ground, often suddenly, and lies without sense or voluntary motion. Persons instantaneously thus affected, as if struck by lightning, were by the ancients denominated *attoniti*, *siderati*.

Apoplexia Pulmonalis, a term first used by Laennec, differs materially from the foregoing, which had reference to cerebral apoplexy only ; here, for example, the terms “ *percutio* ” and “ *attoniti* ” are inappropriate, as individuals struck with apoplexy of the lungs never “ fall suddenly to the ground without sense or voluntary motion.”

An anatomico-physiological consideration of the brain and pulmonary apparatuses, together with a just appreciation of their relative offices, sensibilities, and functions, will explain the differences here referred to.

† Path. Anat. by Townsend, vol. ii. p. 516.

in which the blood, instead of accumulating in the parietes of the bronchia and air-cells, escapes from its vessels, ruptures their parietes, and is collected into a clot in a cavity formed for itself in the parenchymatous substance of the lung."

The opinion of Louis may be referred to as expressing the sentiments of the best informed men on the subject of hæmoptysis. He thus expresses himself:—"I am well aware that Broussais did not confine himself to denying that hæmoptysis was the effect, or denoted as a matter infinitely probable the existence of pulmonary tubercles, but that, in his opinion, a multitude of causes besides tuberculization might bring on hæmoptysis, and that Laennec, in making pulmonary apoplexy the cause of hæmoptysis of any severity, had been much more correct than myself.

"But this assertion on the part of the illustrious inventor of auscultation is an erroneous one, for pulmonary apoplexy is frequently met with in the bodies of individuals who have had no hæmoptysis during life, and the converse is not less common. I may add that pulmonary apoplexy was very frequently found in the bodies of those carried off by the epidemic yellow fever of Gibraltar in 1828, whereas not a single individual (I obtained most accurate information on the subject) had had hæmoptysis at the time. Again, I have very often, during the last fifteen years, had occasion to observe phthysical patients, while actually suffering under severe hæmoptysis, or very shortly after, and in no case did I discover the symptoms pointed out by Laennec, as those of pulmonary apoplexy.

"Unless then, we determine to set aside altogether the evidence of facts, it is impossible, as it appears to me, not to admit, that with a few, unfortunately too rare exceptions, hæmoptysis, when at all severe, denotes tuberculous disease of the lungs."*

* Louis on Phthisis, 2nd ed., p. 168.

And again: "so that, unless extremely attentive and repeated examinations of the upper portion of the chest, by means of auscultation and percussion, have proved the absence of tuberculization in individuals who have had hæmoptysis, without subsequent symptoms, for a *series of years*, these cases afford no satisfactory proof that hæmoptysis may occur independent of pulmonary tubercles.

Besides analogy is here, for once at least, in accordance with observation, for when hæmorrhage occurs in an organ more or less deeply placed in the frame, it is almost invariably the signal of some radical alteration of its structure."*

Bronchial hæmorrhage usually occurs below the bifurcation of the trachea, where the subdivisions of that tube are of considerable size; seldom from the trachea between the larynx and the bifurcation; less frequently from the vesicular and parenchymatous portions; and I am not aware of any *large* discharges of blood from the mucous surface of the larynx, unless produced by wounds or ulceration of that membrane.†

Acute bronchitis, by whatever cause occasioned, seems to act as a bar to large hæmorrhages from those mucous surfaces. We find an admirable illustration of this and the foregoing facts in the case of foreign bodies, accidentally received into the trachea and bronchi. From thirty-four such cases, now before me, comprising, if not all, certainly the great majority of such accidents hitherto placed upon record, but five examples are afforded, where blood to any considerable amount was poured out, and in each of those cases the cause was apparent, namely, an abraded or wounded blood-vessel. The cases here referred to are as follows, viz.:

* Op. Cit., p. 169.

† This proposition is established by the entire history of laryngea, first explained in a scientific manner by Drs. Farre, Laurence, and Percival (Med. Ch. Trans., vol. iii. art. 6 and 19; also vol. iv. art. 16; and vol. viii. same Trans., p. 221); and subsequently by various authors, the most distinguished of whom are Laennec, Broussais, Bretonneau, Louis, Andral, Carswell, Porter.

1st. Louis' case.—The foreign body, sharp piece of a veal bone.*

2nd. Langlet's case.—The foreign body, a sharp piece of bone.†

3rd. Holman's case.—A fragment of bone three-quarters of an inch long.‡

4th. Howship's case.—The foreign body an iron nail.§

5th. Sue's case.—The foreign body, a portion of the vertebral column of a pigeon.||

The Greek and Arabian physicians made use of the same therapeutic agents as we do; indeed it might be confessed that but little progress has been made in modern times, in the treatment of hæmoptysis, and that this progress has reference *chiefly* to the more appropriate use of the means which were known to the ancients as well as the moderns. If we except the use of ligatures to the limbs and the hæmatite, or blood-stone, there is no part of the treatment recommended by the Greeks that may not be applied with advantage, and is not now in use for this complaint.¶

But whence arises the difficulty of diagnosis and consequent uncertainty in the application of remedial agents, so apparent at the present day in this, one of the most common varieties of hæmorrhage? The unbounded extent of the subject will answer the inquiry; presenting, as it does, a list of cases which seem to bid defiance to arrangement, as they undoubtedly do to analysis.

* Mem. de l'Academie de Chirurgie.

† Mem. de l'Acad. de Ch., tom. v.

‡ London Med. Journal, vol. iii.

§ Practical Observations on Surgery, &c., London, 1816.

|| Mem. de l'Acad. Royal de Ch., tom. v. p. 535.

¶ Ligatures to the extremities, or compression of the abdominal or ascending venæ cavæ, may be found of temporary use in the relief of certain cases of hæmoptysis, arising from a congested state of the venous circulation. I am not aware that they are often used.

In order to be more intelligible, I shall glance at some of the most obvious causes of pulmonary apoplexy, and divide them into physical or automatic, and moral or specific.

The former admits of illustration by referring to the very extensive vesicular surface to which the blood is circulated, for the purpose of undergoing the requisite changes during respiration; to the delicate conformation of the capillaries; to the liability of the lungs to congestions from obstructions of the veins, and of the circulation through the heart; from tubercular and other lesions of the substance of the lungs, and to the liability of this organ to derangements of its circulation from various lesions of remote organs, as the liver, spleen, pancreas, &c.; and from obstructions of blood-vessels.

Under the latter head, "moral and specific," I arrange the various diseased conditions of the blood, as in fever, measles, scarlatina, gout, rheumatism, &c.; the various sympathies, proximate and remote; and lastly, the passions and other secret operations of the mind, most of which remain as much hidden from our view, as they were from Socrates and Plato, who, no doubt, were as sanguine in their hopes of success on this subject, as are Müller or Liebeg, at the present day, in their microscopical and chemical examinations of the blood, &c.

In the present state of our knowledge on those subjects, the observation of M. Voltaire applies with peculiar force:—"We cannot," says he, "take a single step towards arriving at the slightest knowledge of the cause of life and thought. These questions appear sublime: what are they? The questions of the blind, who ask of others equally blind, what is light?"* Thus are the causes of pulmonary apoplexy, like

* "Nous n'avons point le moindre digne, ou nous puissions poser le pied, pour arriver à la plus légère connaissance de ce qui nous fait vivre et de ce qui nous fait penser.

"Ces questions paraissent sublimes, qui sont elles? Des questions d'aveugles qui disent à d'autres aveugles, qu'est ce que la lumière?"—*Dictionnaire Philosophique*.

apoplexy of the head, heart, or spinal sheath, to be received under two great heads, namely, physical or automatic, and moral or nervous.

Admitting the causes above referred to as alone possessing a modifying influence ; and that every possible case admitted of accurate diagnostic demonstration, still the appropriate application of therapeutic agents would be a task of no easy acquirement. But if we view the subject as it really stands—a host of physical causes, not well understood nor accurately diagnosed, more or less under the influence of moral or nervous agencies, of which we are totally ignorant, but by a few of their *operations or results*, how immense a subject does this appear !

A patient inductive analysis of those “operations or results” has, however, done something, and, it is hoped, will do much more towards dispelling the cloud of ignorance which overshadows this interesting and highly important subject.

Having, not unfrequently, met with examples of pulmonary apoplexy, which seemed not at all under the influence of any of the above-named physical causes ; were not vicarious of other natural or acquired discharges ; nor of the “specific” character referred to, and yet possessed the rare feature of being, for the most part, curable, I claim for them, in accordance with my *text*, the character of rarity, and for the sake of perspicuity, have arranged them under the four following heads :—Sthenic, Asthenic, Simple Congestive, and Cataleptic.

STHENIC PULMONARY APOPLEXY.

This form of apoplexy of the lungs is of such frequent occurrence, especially with young subjects, as scarcely to entitle it to be regarded as a rare affection. Stoll and Portal mention this species, which they consider as symptomatic of dentition or worms :* Billard thus speaks of it : “ This is of

* Portal, p. 62.

more common occurrence in new-born children than in adults or old people."* It is also well described by Gendrin and M. Bonellard.† M. Denis has also mentioned it in his work.

As pleuritis is rarely combined with pneumonia or congestion of the lungs in children, and blood is rarely expectorated by them, great caution is necessary in frequently exploring their chests in all suspicious cases.

The following affords a good example of sthenic pulmonary apoplexy in an adult:

A gentleman, æt. 27 years, of sanguineous temperament, fair complexion, and light hair; distinguished for his muscular prowess, and proud of excelling in gymnastic exercises, addicted also to luxuriant living and occasional excess in vinous potations, awoke about one hour after going to bed, on the night of the 15th of August, 1837, finding his mouth full of blood; about four ounces of which, fluid and partly mixed with air, was thrown up, with little or no exertion, during the night. In this state I found him early the following morning; his countenance was pale, apparently from alarm; his skin hot; pulse 85, regular, but full; felt perfectly well, with a sense of heat only in his chest, which sounded on percussion clear in every part; and auscultation elicited a mucous ronchus only towards the right side of his sternum. A *full* bleeding was taken from his arm; his bowels were opened; a blister laid upon his chest; Acet. Plumbi, two grains for a dose, with four of P. Ipecac. Comp., three times daily; the temperature of his room was reduced; his head and shoulders elevated, and he was ordered cold acidulated drinks; and he had a strict injunction to refrain from speaking, or using any bodily exertion.

The following day the temperature of his skin had come down to the normal standard; his pulse had lost its fulness, and in all respects he seemed progressing to perfect reco-

* Billard, translated by James Steward, M. D., p. 387.

† Archives Generales de Med., 1826.

very, when on the sixth day he attempted to walk in the open air, and a return of the hæmoptysis took place. About two ounces of blood were discharged as before, followed by portions of coagula, bearing the impress of the bronchial tubes in which they had been retained.

A second full bleeding from his arm, followed by a strict observance of the foregoing rules, seemed to subdue the complaint, so as at the end of five weeks from the first seizure, he was able to take moderate carriage exercise, having had no subsequent discharge of blood, unless coagula, which came off from time to time. Occasional small bleedings were ordered, from six to eight or ten ounces, every fortnight, followed by a small blister. His chest was repeatedly explored, but no abnormal sound elicited, beyond the ronchus already referred to, and that went off when the expectoration ceased. The blood, when drawn, always bore marks of inflammation; was ordered to live low, and avoid violent exertions of every kind.

Six months afterwards he appeared perfectly well, so much so, he then returned to his former habits of living, and soon after, little more than ten months from the date of the first illness, a fresh attack came on, and in an aggravated form. He was, as on the former occasion, awakened at night, finding blood in his mouth; several ounces of which were thrown up in quick succession, so much so his friends were for some time apprehensive he would be suffocated. I found him in this state, his countenance pale; extremities cold, pulse feeble, but distinct and regular, at 80 in a minute.

Having equallized the circulation, a small bleeding was taken from his arm, and the treatment adopted on the former occasion repeated, with the addition of ice to his chest. The most careful exploration of his chest could elicit no abnormal sound, in addition to the ronchus, like that of mucus, but which evidently arose, in this instance, from blood in the bronchi of his right lung.

In two months from the date of this second attack, he was again in apparent good health, which did not forsake him for fourteen months, when he was again seized as before, in consequence, it was believed, of irregularity in his mode of life. A large quantity, fully twelve ounces, of blood was now coughed up within the first hour. I found him two hours after the seizure, gasping for breath; the pulse at his wrist was indistinct and scarcely perceivable; from this state he gradually emerged within two hours; the hæmoptysis had nearly ceased, but the dyspnœa was very great; he also experienced a sense of heat extending from the epigastrium upwards to his throat; his chest was dull on percussion over the mammary and hypochondriac regions, on the right side; and the respiration was here null, for a corresponding extent; the infra-clavicular sounds are clear on both sides of his chest, but there is a mucous ronchus with puerile respiration in both these situations.

Every effort was made to relieve the embarrassment of his chest, first by depletion to the utmost extent that could be borne; by balancing the circulation; by derivatives and revulsives; by an emetic, but one could be borne; and lastly by mercury, promptly and vigorously given. From this period to the hour of his death, which took place on the evening of the third day, but little blood was expectorated; the dulness on percussion, however, progressively advanced, first to the superior lobe of his right lung, and subsequently, to the left side of his chest. He died asphyxiated.

Autopsy.—The right bronchi are nearly filled with blood, partly coagulated; the entire lung, except a small portion of the superior lobe, is dark coloured, solid, but brittle to the feel; the fingers pass easily into its substance; the middle lobe presents a ragged excavation, filled partly with fluid and partly with coagulated blood, intermixed with portions of the engorged and lacerated pulmonary tissue.

The left bronchi were partly filled with blood, for the most

part thin and frothy; holding, as it were, portions of coagula suspended therein; the lung itself is highly vascular, but no rupture nor interlobular effusion seemed to exist in it. All the viscera of his chest were perfectly sound, and there was no reason for suspecting any remote organ.

Many cases of recovery from this form of pulmonary apoplexy might here be given, but the recital of them would be but the echo of what has been already written on the subject. Large bleedings in the first instance, with purgatives, blisters, probably emetics,* and other suitable revulsives and derivatives; also rest and the antiphlogistic treatment, comprise the leading indications in those cases. Should dullness remain in any portion of lung, whether it be from inflammation, pneumonia, simple congestion, or effusion, mercury holds out the fairest prospect of cure.

ASTHENIC PULMONARY APOPLEXY.

This affection, arising from enfeeblement of the system, affords one of the several examples, in which the want of due determination of blood extends within the limits of disease, and however paradoxical the coexistence of two states, fulness and debility, thus apparently opposite, may seem, as

* The propriety of using emetics in apoplexy has been a contested point since the practice was first proposed by Aretæus. Sydenham, Fothergill, Pitcairne, Kirkland, Salle, and others, recommend the practice, whilst Forestus, Cullen, Cheyne, and many others, forbid it. I think, with Cullen, it is an "*anceps remedium*," and should be used as such, in cases like the foregoing, after bleeding and the other remedies seemed to fail. If emetic medicines be at all useful, they are most suitable here, both from their sedative and diaphoretic action. Louis (Op. Cit. p. 552) uses these remarkable words: "But the danger is extreme, and the treatment called rational has failed; why then, should we not in so critical a conjuncture—when it is impossible to expect anything from the efforts of nature or art—why should we not have recourse to a system of treatment, which has sometimes been successfully employed, and consequently carries with it some chance of safety?"

a source of mischief, the fact is undeniable, and the result, if not counteracted, most disastrous. Of this description is that form of pulmonary apoplexy already alluded to, arising in the latter stages of yellow fever;* of this description is that form of the affection arising in the low typhus fever of this country, better known under the denomination of typhoid pneumonia, a term lately adopted without due consideration;† of this kind too are those local congestions

* Louis, *Op. Cit.*

† By referring to the pathological condition of the lungs, under this misnamed pneumonia, what do we find? not, as the term pneumonia properly implies, an actively morbid state of the vessels and nerves supplying the part, tending to change of structure, gray hepatization, and to disorganization. We find a congested state of the vessels and tissues, with, perhaps, a rupture of their parietes, pulmonary apoplexy; we find an altered condition of the blood; and probably an adhesive semisanguineous exudation upon the bronchial mucous surfaces, the result of imbibition.

Inflammation of a lung, pneumonia more or less genuine in proportion to the powers of life possessed by the patient, may, and no doubt does, take place in the milder or less grave forms of what is called typhoid fever; but the term pneumonia, or inflammation, is, for the most part, misapplied to what is called typhoid pneumonia, arising in the lower form of typhoid fever, adynamic fever, asthenic fever, *fièvre typhoid*, *chomel*, *nervous ataxique*, *der typhus nerven fieber* germ, &c., &c., &c. Here congestion, not inflammation, is the actual condition of the lung. This state of the lung is well described by Dr. Copeland, see *Med. Dict.*, p. 1003, in the following words: "The bronchial surface is the part chiefly affected, and is rather congested than inflamed. The pleura is rarely attacked; but the substance of the lungs is sometimes implicated, and it then commonly becomes rapidly infiltrated or condensed, a fatal result quickly supervenes. This complication is often obscure, or even latent; but it generally admits of detection by auscultation, or by attentive observation alone. The patient some times complains of stricture, oppression, or dyspnœa, but very seldom of pain in the chest. The respiration is short and hurried; is attended by the mucous rattle, and with more or less cough. The skin is seldom hot; at a later period it is cool, or even cold in the extremities, and dusky or lurid; the cheek is tinged with a dark red, and often assumes a lurid or purplish hue; the pulse is rapid and weak, &c. This state may continue for several days, with unconscious evacuations, and all the nervous symptoms prominently marked; at last the pa-

occasioned by inanition or excessive sanguineous depletion,* and other discharges from the bowels, uterus, or bronchi.

Pulmonary apoplexy, apart from any of the abovenamed physical causes, may, no doubt, occur under an infinite variety of combinations, and at any period or stage, from the purely sthenic to the asthenic, now under consideration. As an intermediate link in this extended chain of events, I would refer to a case given by that excellent man and good physician, the late Dr. John Cheyne. I make no apology for transcribing it.*

“The first tendency to hæmoptysis experienced by —, now a clergyman in the Established Church, appeared when he was about the age of fifteen, in the year 1807. From that period to the year 1823 he continued subject to several attacks of bleeding annually, but of so slight a nature as not to affect his general health, or interfere with his professional avocations.

“In the month of May, 1823, however, he experienced an attack so serious, and attended by so alarming symptoms, that, under medical advice, he was bled to the amount of twenty ounces, and took for several successive days (with a view of lowering the circulation) frequent doses of a nauseating mixture, which reduced the pulse, and, for a time, checked the bleeding from his lungs. But the complaint returning,

tient sinks asphyxiated, the changes necessary to life ceasing to take place in the blood sent to the lungs.”

This form of apoplexy is forcibly alluded to by the late Dr. Parry of Bath (*Elements of Pathology and Therapeutics*), in the following words: “Less quickly, but not less certainly fatal, is that gradual process of hæmorrhage which occasionally takes place from the nose, the stomach, the hæmorrhoidal, or uterine vessels, from which the patient dies with an accumulation of blood about the heart and lungs.” In later times Majendie seems to merit the honour of being the foremost amongst those who, by their too oft repeated vivisections established this fact beyond the possibility of doubt.

* *Dublin Hospital Reports*, vol. v. p. 351.

and great debility coming on, he was obliged to absent himself from professional duties.

“To the hæmoptysis were now added total loss of appetite, and derangement of stomach, so that the food was rejected almost as soon as swallowed. In this state he continued for about five months, when, being advised to spend the winter on the Continent, he left Ireland, October, 1823, and proceeded to Nice, where he arrived early in December.

“An issue was inserted in his arm ; his health very much improved, but every morning he expectorated a little blood, or mucus tinged with blood. In a few days after his arrival at Nice, he was again attacked with bleeding from the lungs, and extreme difficulty of breathing, so that for several nights he was unable to lie down ; but upon changing his residence from the north to the south of the town, the asthmatic affection immediately ceased.

“The hæmoptysis also was in some degree checked, but the derangement of stomach, and expectoration of bloody mucus, still continued. At Rome, where he passed the months of March and April, 1824, and subsequently at Geneva, during the summer, he was subject to frequent returns of the complaint, occasionally so severe as to call for large bleedings from his arm, and other active treatment. In November he returned to Ireland, Dublin, and during the winter the complaint increased in violence, and became much more frequent in its returns.

“The constant recurrence of these attacks produced great emaciation, and at length such a degree of weakness, that he was unable to walk across the room without assistance.

“In this state of extreme debility he remained in February, 1825, when, every thing else having failed, it was suggested to try small bleedings from the arm at stated periods. For some months previous to the application of this remedy,

he had daily at least three, and frequently four attacks of hæmoptysis. About the middle of February, immediately after an attack, six ounces of blood were taken from the arm. For three days after he had no attack, and on the fourth a slight one, after which six ounces of blood were again taken. No attack for ten days. The attacks now gradually became less and less frequent, but every week six ounces of blood were taken from the arm. In the beginning of May he went to the country, with directions to continue the stated bleedings, which he did regularly every week, using the lancet himself, and thus being enabled at once to check an attack. The blood was invariably much cupped and buffed; the complaint gradually subsided; health and strength slowly returned. During the whole of the ensuing winter he was able to take exercise in the open air, without suffering from cold.

“In the month of June, 1826, he again entered upon the duties of his profession, from which he has never since been obliged to absent himself, and, with the exception of an occasional attack, which occurs generally in the spring and autumn, and is invariably checked by the lancet, he is now, 1830, in as good health as he has ever been at any period of his life.”

Although this case wants the satisfactory, and perhaps additional light which auscultation; not then generally practised in Ireland, might have shed upon it, still it possesses the interesting features of an extremely severe form of pulmonary hæmorrhage of the sthenic kind at first, lapsing into the asthenic, increasing in intensity as it advanced, and presenting a beautiful illustration of increased nervous susceptibility; itself, at first a consequence, being converted into a cause. Dr. Cheyne thus comments upon the state of nervous irritability present during the latter (asthenic) stages of the foregoing case.

“A very slight cause would often produce sanguineous

expectoration. When I drove up to this gentleman's lodgings, the flurry produced by a medical visit invariably caused a slight hæmoptie attack, insomuch that I found it necessary to leave my carriage in an adjoining street, give only a single knock at the door, and slip into his room without noise."* It is impossible not to be struck with the analogy to the act of blushing observable in this case; and how confirmatory does it seem of the hæmorrhage being, in this instance, an issue from the capillary system of the lungs!

The result here justified the means, and stands a beacon to guide us in similar cases; but here too rests the danger of applying a particular remedy or line of treatment to all cases of hæmoptysis. I know no words sufficiently strong to express my condemnation of this too prevalent practice.

Dr. Cheyne believed hæmoptysis to be generally but a symptom of phthisis, and laboured under the delusion that small bleedings frequently repeated had the power of assisting or curing the latter disease.†

* Op. Cit., pp. 354-5.

† The study of phthisis under the present point of view, that of its curability, has, as yet, made but very little progress. "In the cases of cure," says Louis, p. 475, "hitherto known, the morbid state has always been very limited in extent, and this limitation has not been the result of any circumstance which, although fortuitous, was still appreciable, and hence more or less easily producible at will in other cases; but the effect, no doubt, of circumstances peculiar to each individual case. The nature of these circumstances is at the present hour utterly unknown, and to the steady investigation of them, medical observers should sedulously apply themselves." Those who, like Cheyne, Broussais, and others, believe phthisis to be of inflammatory origin, imagine they have succeeded in curing it during its early stages, by antiphlogistic means and by mercury, which latter remedy, as proposed by Dr. O'Beirne of Dublin, has been found most useful in the subduction of scrofulous inflammation, not alone in morbus coxæ, but, as proposed by Drs. Stokes, Marsh, and Graves, in scrofulous inflammation of the lungs also. The cure of scrofulous inflammation, however, and the removal of tubercular infiltration or deposit, are two different things, and herein consists the error into which these gentlemen seem to have fallen.

Inflammation arising in a scrofulous constitution may lapse with the deposi-

CASE I.—A. C., the son of a farmer, born of healthy parents, with light hair and complexion, was the subject of violent epistaxis, which commenced in February, 1840, was occasioned, it is supposed, by a fall upon his face, and returned at irregular periods, sometimes so frequently as three times in a week, until the month of August following, when I first visited him. Large discharges of blood were reported to have taken place at various times, and those were only arrested by plugging the posterior nares, and even this had to be given up, owing to the irritation it occasioned, the day before my visit.

Various remedies were applied, and I believe with much skill and judgment, but any benefit derived from treatment was of short duration.

I found the young man much emaciated, so weak as to be scarcely able to stand. His face had a swollen, erysipelatous look; a thin, reddish mucus issued from his nose, the entire mucous surface of which was so much inflamed from the previous use of the plug, he could not allow a satisfactory examination of it. His pulse was what is known under the denomination of the hæmorrhagic, rapid, 120, bounding and easily compressed. He had no cough, but fearing the existence of tubercles in his lungs, these organs were explored, and found clear on percussion; auscultation elicited no abnormal sound.

A solution of Argent. Nitrati, gr. vi. to the scruple of water, was applied to his nares, as far back as the pharynx. He was ordered to be kept in a cool apartment, having a current of cold water applied to his face. Acet. plumbi, mineral acids, and light restorative diet, comprised the other indications of cure. I should mention that great attention was paid to the maintenance of the proper temperature of

tion of tubercles, but where is the proof that mercury, which, no doubt, has cured such inflammations, ever removed tubercles?

his limbs, and occasional stimulation, on the principle of derivation, was used to his legs and feet.

Under this plan of treatment he seemed to improve for about ten days, when a large bleeding from his nose returned, followed by syncope, and alarming indications of approaching death. He coughed up some reddish mucus; his breathing was laboured; and he pointed to the right side of his chest as the seat of the the dyspnœa under which he suffered.

His chest now sounded dull on percussion, for about its inferior third, and auscultation elicited no sound for nearly a corresponding extent; both these signs were most intense posteriorly.

A small bleeding, four leeches, was ordered from the congested lung, followed by counterirritants, derivatives, &c.; but he became rapidly worse, and the following day he died.

His body was examined twelve hours after death, and the following report of the *post mortem* appearances were sent me by a medical friend, upon whose ability and integrity I place the utmost reliance.

“The right pleura contained a small quantity, not two ounces, of serum; the entire of the corresponding lung was infiltrated with dark-coloured, thin blood and serum; this appearance was most striking towards the free edges of the lung and upon its posterior aspect; in one part, about the centre of the middle lobe, the substance of the lung seemed to have given way, as fibrous shreds hung loosely intermixed with portions of lung, blood, &c., bidding defiance to any thing like regular dissection. A small portion of the superior lobe seemed pervious to the air, and, unlike every other part of the viscus, floated in water; it was, however, dark-coloured, and seemed to be about taking on those appearances already described in other parts. Some of the large bronchial tubes were opened, and in many places their surfaces were lined with a soft, deep, reddish-coloured mucus.

“The left lung and all the viscera of the chest were perfectly healthy, but pale, flabby, and exsanguineous.”

CASE II.—A. M., æt. 66 years, a man addicted to intemperance in drink, was seized with a slight paralysis affecting the right side of his face and arm. These alarming symptoms went off under ordinary treatment, as did two illnesses of a similar kind previously. On this occasion, however, no sooner had the complaint left his face and arm, than it fell upon the muscles of deglutition, and so perfectly lost were all the powers of those organs, it became necessary to support him by means of a gum-elastic tube passed into his stomach, and through it food and medicine.

After six weeks spent in fruitless endeavours to restore the affected part, he shewed visible signs of declension, both in body and mind; about this time too, he expressed feelings of disgust at the manner of receiving his food; besides he was harassed by a distressing dysphagia, and tenderness along the mucous surface of the pharynx and œsophagus.

From this period to the end of the tenth week, he continued to lose flesh and strength: his head felt occasionally hot; his sleep forsook him, and under these discouraging prospects, he was suddenly seized with hæmoptysis, cough, dyspnœa, and pain in his left side.

I found him in this state, gasping for breath; his extremities cold; pulse indistinct, not to be counted; the entire left side of his chest was null on percussion, as high as the second rib, where a bronchial ronchus could be heard.

He rapidly lost ground, and died the following morning, little more than twenty-four hours from the first symptoms of pulmonary congestion, and nearly eleven weeks from the first application of the elastic tube.* No examination of the body was allowed.

* Mr. Hunter (vol. i. of the Transactions of the Society for promoting Medical and Surgical Knowledge), was, I believe, the first who recommended the use of a hollow flexible tube in cases of this sort. He records a case of recovery under the use of valerian and mustard passed into the stomach twice a day for a month. I know of no case where life was sustained beyond this period. Sauvages and Cullen recommend the mastication of aromatics, and the radix pyrethri.

CASE III.—Mrs. M——. æt. 35 years, was reduced to extreme debility by uterine hæmorrhage, which persisted for four weeks, after a miscarriage, which occurred at the fourth month.

I was requested to visit her, not so much on account of the uterine hæmorrhage as with the hope of my relieving what she called a “new symptom,” namely, a cough, accompanied with oppression of breathing and slight hæmoptysis ; her alarm was increased by the fact of her not being subject to coughs or any affection of her chest.

I found this poor lady in the greatest alarm, her countenance blanched ; lips exsanguineous ; pulse feeble, rapid and easily compressed ; her breathing was hurried, and I was shewn about one ounce of frothy blood and mucus which had been expectorated.

The right lung posteriorly was dull on percussion, as high as the fourth rib ; anteriorly but little dulness could be perceived ; the respiration, however, in this part, was bronchial.

Having succeeded in extracting the shell of an ovum from the os uteri, where it had been impacted, and by which the hæmorrhage was perpetuated, that discharge was arrested, and she was gradually restored to almost perfect health.

The means adopted for the recovery of the congested lung, consisted in, first,—an equalization of the circulation ; stimulation applied over the affected part, and to her legs ; small local bleedings, when those could be borne, without lowering the system generally ; afterwards mercury was given on the principle of exciting absorbtion.

The restoration of the part was only partial ; it is now, a period of five years after the attack, dull to the extent of one-half what it was originally ; in other respects, however, she is in good health, having had two live children since then. She takes cold easily, and under those catarrhal affections the affected part feels uneasy ; is harassed with a

ringing cough, *tussa clangosa*, all which symptoms have hitherto yielded speedily to small sanguineous depletions from the affected part, followed by a blister and nauseating medicines.

Emetics, depletory, and other lowering measures of treatment are manifestly inadmissible in all cases resembling the foregoing; yet tartar emetic and calomel, in large doses, has been lately recommended in cases apparently parallel in point of debility, and with the super-addition of the benumbing influence of fever, also.*

The question, what is fever, remains unanswered up to the present moment. It might be maintained that it is but a chief mode of reaction, intended to relieve either general disease by general increased momentum and its consequences, or in morbid local affections to afford aid to parts incapable of restoring themselves by their own powers.†

I avail myself of no such excuse for this digression. The highest authority has proclaimed it to be more than this.‡

The great practical importance of the subject, in relation to asthenic pulmonary apoplexy, must be my apology.

The following brief historical sketch of the treatment of fever by tartar emetic and opium may, it is hoped, lead to a

* I here allude to these pulmonary congestions, above referred to, typhoid pneumonia so called, under the erroneous supposition, that they are of an active inflammatory nature.

† Idiopathic typhus fever, as manifested to our senses, is graphically and well defined in the following words of Dr. Copeland, Med. Dict., p. 896. "It implicates the whole of the vital endowments and faculties, the fluids and the whole organization; it is acute and dangerous in its course, with lesion of the circulation, with alteration of the animal heat, and of the secretions; and with diminution of vital powers," &c. &c.

Regarding it, therefore, in the light of a specific virus, it is foreign from my present design.

‡ St. John's Gospel, chap. iv. ver. 52, "Then inquired he of them the hour when he began to amend: and they said unto him, yesterday, at the seventh hour the fever left him."

just appreciation of its value with reference to the treatment of the asthenic form of pulmonary apoplexy, in this complaint.

Rasoni and Thomanasini have generally been considered the inventors of this mode of curing fevers, but unjustly, as their plan was but a revival of the practice of the older physicians. Doctor Maryatt of Bristol has, in his work on Therapeutics, the last edition of which he published about 1790, this passage :—" Any fever may soon be extinguished by the use of the following powders : Take of antimony, five grains ; white sugar or *nitre*, a drachm ; let them be well rubbed in a glass mortar, and divided in six powders, one to be taken every three hours, and notwithstanding the nausea the first may possibly occasion. If they bring on a diarrhœa they should still be continued, and it will soon cease. If these are taken, which is most commonly the case, without any manifest inconvenience, let there be seven grains in the next six powders, and in the next ten. Here I beg leave to retract what I said in some former editions of this work, viz. : that till sickness and vomiting was excited, this notable medicine was not to be depended on ; for I have seen many instances wherein a paper has been given every three hours, of which there have been ten grains in six powders, without the least sensible operation, either by sickness, stool, sweat, or urine ; and although the patients have been unremittingly delirious for more than a week, with subsultus tendinum, and all the appearances of hastening death, they have perfectly recovered, without any medicinal aid, a clyster every other day excepted."

The practice of giving large doses of tartar emetic in acute inflammation, was brought into notice, in later times, by Laennec, from the confirmation of Rasoni's experiments ; he did not, however, trust entirely to it in pneumonia. We are indebted to his pupil, Dr. Delegarde, for the result of Laennec's practice, from which it appears he did not adopt

entirely the system of Rasoni. In England several of our practitioners have followed the principles of the Italians, and about the year 1825 the practice was copied in Ireland.

The following observations of Professor Sigmond, are deserving of general notice:—"The diathesis which bears these enormous doses of tartar emetic has been much dwelt upon, but it has not as yet been pointed out to us, so that we have by no means any just data to act upon. There is too much sacredness attached to human life to allow us to trifle with it; although in diseases which quickly run their career, and would terminate unfavourably, we may assert them with boldness: still, until we are thoroughly masters of the power of each remedy, we must hesitate, and well weigh every circumstance."*

From what I myself have seen, I should prefer giving the very large doses to the intermediate ones. The very large doses I have seen administered in Italy, but I was by no means satisfied either with the practice, or with the carelessness with which it was exhibited; "other means would have been quite as certain of relieving."

I fully agree in the opinion that "other means are quite as certain of relieving."

These "other means" being less hazardous, should have failed, previous to the very doubtful and dangerous practice of giving large doses of tartar emetic.

The combination of tartar emetic or hippo with opium, was well known during the last century, as a means of neutralizing their nauseating effects. "It is well known to medical men," says Dr. Curry, "that when either emetic tartar, antimonial wine, or ipecacuanha in powder, is given, joined with opium, each counteracts the effect which the other would have had, if administered alone; the opium generally

* Lectures on Materia Medica, by George G. Sigmond, M. D., *Lancet*, vol. ii., 1837-8, p. 252.

preventing the emetic tartar, &c. from exciting vomiting; and the latter, in their turn, entirely suspending the stupefying power of the opium. The consequence generally is, that they operate upon the skin, and occasion a very copious sweating."—*Curry*, p. 98.

Rasoni, already referred to, has these remarkable words; after saying that he commenced with twenty-four grains of tartar emetic every twenty-four hours, he adds:—"on the second day, if no ill effects have arisen, and no untoward symptoms of any description have presented themselves, the quantity of the antimony may safely be increased; if any mischievous sign occurs, *syrup of poppies* may be added to the solution."

Dr. Graves,* indeed, has given us very interesting examples of recovery from advanced stages of typhus fever; where, no doubt, less hazardous means had previously failed, and where he was therefore justified in trying a doubtful and hazardous remedy. "*Melius anceps remedium quam nullum;*" but the Doctor has not given any unsuccessful cases, and hence junior practitioners, for whom, I presume, those lectures were mainly intended, might fancy the remedy suited to all cases of low spotted typhus fever, accompanied with restlessness and delirium. It is much to be feared that this very error has been committed.

A close inspection of Dr. Graves' cases teaches this remarkable lesson; the subjects of them were all young, free from every disease or ailment save the fever; and although subdued by it, it is fair to infer that they possessed a tenacity of life not to be found in the old, the intemperate, or otherwise

* Clinical Lectures by R. Graves, M. D. This gentleman prefers combining the tartar emetic with opium. Further experience and reflection, will, it is hoped, enable the Doctor to form a more accurate estimate of the relative value of this excellent remedy, and enable him to assist those who, with a tempered zeal, may prevent it falling again into unmerited disuse.

diseased, none of whom are reported to have recovered under this "heroic" treatment.

It may be asked, what are those "milder means" to which I refer as deserving trial before using tartar emetic?—I answer—those are, or ought to be, known to every experienced physician. One, however, I will mention, as likely, ere long, to hold a prominent position in the treatment of low typhus fever, viz., the modifying and sedative effects of mild opiate enemata, combined with the saline treatment, as recommended by Dr. Bright.*

Dr. Graves gives, in addition, several cases from junior members of the Profession, many of whom had previously attended the doctor's clinical lectures; all in confirmation of the good effects of tartar emetic and opium in the latter stages of typhus fever. I by no means question the veracity of the narrators of those cases; but I very much doubt their judgment.

It is impossible to dismiss from our recollection the rise and fall of the various theories, promulgated from time to time in the treatment of fever, and those too by men of great learning and experience; it seems to be reserved for our own time to receive instruction from those who have lately entered upon the practice of the Profession.

The following words of Louis, to which I accord, seem deserving of general notice:

"I have satisfied myself, by comparing my lately collected cases, with those collected formerly, of the advantage of not undertaking observation, at least when undertaken with a view to publication, until we have passed very early youth; I mean until we have attained an age when we can estimate things at their real value, and when experience has put us on our guard against every description of illusion and theory, and taught us that the first, the essential deside-

* Guy's Hospital Reports: vol. i. p. 1.

ratum, is truth. I was as deeply devoted to study formerly as I am now, but I was not proof against the attractions of a theory cleverly put together ; I cared less for accuracy, and sacrificed less time in satisfying myself of the correctness of supposed facts. These mental tendencies, clashing as they do, with the pursuit of sound observation, depended both upon youth and deficiency of experience. Few persons are free from them ; and I am of opinion, that for this reason we ought, generally speaking, to place less reliance on cases collected by young men, and *above all not entrust the task of accumulating facts to them exclusively.*"*

CONGESTIVE PULMONARY APOPLEXY.†

This form of pulmonary apoplexy usually falls upon individuals who have passed the meridian of life ; those whose constitutions have been more or less impaired by over exertion ; by intemperance, or by the inhalation of damp, noxious, or unwholesome atmospheres.

Dr. Cullen is willing to admit these noxious powers among the causes of apoplexy ; but Sauvages thinks that they produce carus and asphyxia, not the true apoplexy. He speaks of carus a narcoticis, asphyxia à mephitide, à carbone, à fumis, à masto, &c. Portal agrees with Sauvages on this subject.‡

CASE I.—A. B——, a gentleman, æt. 43 years, having fair hair and skin ; a complexion rather florid, and other indications of his possessing the sanguineous temperament ; was, from an early age, accustomed to rather violent exercise, both on foot and on horseback. Suddenly changing his mode of life, he gave up his walking exercise altogether, and the sad-

* Op. cit. Advertisement, p. 26.

† The congestion here alluded to differs from the sthenic form in being of a more passive nature. The cases will, I hope, illustrate those differences which I find I am unable to express in words.

‡ All poisonous gases being of a specific nature, are foreign from my present design.

dle he exchanged for an open carriage. His habits of living, always full, not intemperate, were not lowered at this time, and for large, airy, dry apartments, he exchanged to a house having small rooms, in a damp situation, beside a large river.

The first indication of this change of life disagreeing with him, was the appearance of furunculi breaking out upon his hands and body. About this time he frequently took cold, which always ended in catarrh.

After about four years spent in this manner, he felt his legs less strong, with aching pains about his knees and ankles; he also felt very slight stinging pains about his chest and shoulders, with general lassitude and disinclination to enter into any active occupation; at this period, too, he was more exposed to damp air than formerly, having to travel much by night, which he always did in an open carriage.

With no further indication of disease or indisposition than I have mentioned, he one night awoke shortly after falling asleep, finding his mouth full of blood; this was followed by five or six discharges of the same kind in quick succession: the entire amount of blood discharged was probably about three ounces. His pulse at this time was 70, moderate and regular; had no heat of skin; hurried respiration, nor the slightest indication of indisposition beyond what has been mentioned.

His chest was perfectly clear on percussion; his respiration natural, except a mucous rattle in the large bronchi, owing to portions of blood which were discharged in a coagulated manner during the night.

About 14 ounces of blood was taken from his arm without producing any sensible effect upon his pulse, or in any other way; his bowels were open and a blister laid upon his chest; the Acet. Plumbi, with P. Ipec. C. and mineral acids, were also given. Animal food and wine were laid aside; he was confined to bed for the following week; his head and shoulders were elevated, and his apartment ordered to be kept

cool. In this way he progressed most favourably. On the second and third days there was a slight return of fresh bleeding; but although pieces of coagula were thrown up for about a fortnight, they appeared to be portions of coagulated blood which lodged in branches of the bronchi; this was evident from their bearing the impress of the air-tubes which contained them.

Small bleedings from the arm were resorted to every eight or ten days, followed by a small blister, for upwards of two months, when he gradually resumed his ordinary avocations. The bleedings, however, and the blisters, were resorted to from time to time, but at longer periods of intermission, for six months afterwards.

Little more than twelve months from the first seizure a second discharge of blood, in all respects resembling the former one, took place; he awoke, as he did then, with his mouth filled with blood, which also soon coagulated.

The recurrence of the complaint was now ascribed to fatigue and mental anxiety, but owing to a variety of circumstances, was not so easily arrested as before. No fresh discharges of blood took place at the end of three weeks, and only three previously; and on no occasion did the quantity spit up amount to more than two ounces. Fearing the existence of some organic disease, of which the hæmoptysis was but a symptom, his chest was closely examined by almost every medical man of eminence in Dublin, but no disease could be discovered.

In addition to the plan of treatment adopted on the first occasion, wine and beer were altogether prohibited; he was ordered to remove his dwelling to a dry, elevated locality; avoid fatigue or great bodily exertion; and should a sense of pain, formication, or constriction arise in any part of his chest, a moderate bleeding should be taken from his arm; a blister laid upon the affected part, and the other means of relief formerly resorted to, derivatives, &c., resumed and repeated as might seem to be necessary.

An occasional blister was laid upon his chest during the following year ; no wine nor malt liquor were used by him for five years, and then but sparingly. The foregoing rules were strictly adhered to ; and now, *thirteen* years from the date of the first attack of hæmoptysis, he is in the enjoyment of perfect health, and possesses greater vigour of mind than at any former period of his life.

CASE II.—A. K. æt. 45 years, a strong, muscular man, with dark hair, full and florid complexion, not subject to any ailment, first felt, in the summer of 1830, slight aching pains, accompanied with weakness in his knees and ankles. His breathing became hurried and oppressed under exertion, and his arms and chest were sometimes affected with pains, so slight he did not mention them, even to his own family. When questioned as to the cause of those symptoms his reply was, “ his constitution was over-exerted, strained, and weakened in the early part of his life.”

In this state he progressed for upwards of two years, attending with assiduity the ordinary business of his calling, that of a grazier, entirely neglectful of the foregoing symptoms, which he ascribed to somewhat premature indications of approaching old age ; but he lived a life of indolence and gluttony, compared with his former habits. His apartments were small and badly ventilated, and situated in a bog.

In August, 1833, he consulted me on account of a spitting of blood, which for the preceding month recurred to him as often as six times : each discharge did not exceed an ounce ; it usually came on during his sleep.

He felt no alarm for his situation, believing it to be a salutary discharge, by which his overloaded constitution might obtain relief.

He had all the appearance of perfect health ; his pulse was 66, skin cool ; and all the secretions and excretions performed with apparent regularity. No indication of disease could be discovered in his chest, and it was with difficulty I persuaded him to submit to treatment.

One large bleeding was taken from his arm with a recommendation to repeat small bleedings, as proposed by Dr. Cheyne, every week or fortnight; each bleeding to be followed by a small blister over some part of his chest; his bowels to be kept open, and his diet was regulated.

At the earnest entreaty of his family a tolerably strict compliance to the foregoing rules was obtained for nearly a year, during which time he had but one small discharge of blood from his lungs. He now lapsed into his former habits of indolence and full living, which ended in a violent rupture of the lower lobe of his right lung, which proved fatal in a few hours.

The gentleman who made the *post mortem* examination in this case, kept no notes of it; but assured me there was no apparent disease of his lungs, or any of the thoracic viscera beyond the lesion of the inferior lobe of his lung, which was one mass of dark-coloured blood and torn lung.

Thus hæmoptysis, independent of organic disease of every kind, may be readily traced to its just source; and a suitable and often successful line of treatment established; but endless are the relations in which the affection may be found, with respect to other functional disorders. The following case by Parry will best explain my meaning.*

“A gentleman spit blood copiously almost every day for twenty years; during which he abstained from animal food and every form of alcohol. Having attempted to return, by slow degrees, to the use of the former, he had, in one year, four attacks of inflammatory fever. These were succeeded by vehement palpitation of the heart, which frequently returned during several years. They ceased on the suppression of cough, with very copious and constant expectoration of thick mucus, unaccompanied with blood. By degrees, and after some years, the cough and expectoration disappeared; and he had then dyspepsia and occasional at-

* Op. Cit. p. 387.

tacks of palpitation ; both of which seemed to give way to remedies, but were immediately followed by hæmoptœe.—From this period, during all his remaining life, which was extended to more than eighty years, the three states of mucous expectoration, hæmoptœe, and palpitation, alternated with each other ; but no two of them existed together.”

CATALEPTIC PULMONARY APOPLEXY.

Among the species of apoplexy of Dr. Cullen, we find the *apoplexia cataleptica*. Some physicians doubt of the existence of this affection, others admit it to be an idiopathic, but uncommon disease. Dr. Gregory, in his Lectures, says, “it is a disease which very seldom occurs ; but I once saw a fatal case of it, in which there could be no suspicion of deceit.” Catalepsy has been described by Galen, and some others of the ancients, and by several modern physicians, particularly by Sauvages, who places it as a genus under the order “comata,” and he enumerates several species of it.

Sauvages says, “the disease occurs in paroxysms, in which the body and limbs retain their fixed posture, whether the patient be sitting or standing.” In a perfect catalepsy, he observes : “if the hand be raised and extended, it will not fall, and if the muscles be in any particular posture or state of action, at the accession of the disease, they will continue in that state ; so that if the muscles of the face, for instance, be disposed as in laughter, or in weeping, such impression will remain, the whole body resembling an image of wax, which receives and retains all impressions. The duration of the paroxysm varies from a few minutes to several hours.”*

* Forestus, Liti. and Obs. 41, briefly, but forcibly, describes this affection in the following terms :—“Quam catalepsia quis eorripiter, confutim instar marmoreo statuæ gelatur, nec mutat constrictus presentem corporis habitum, sed subito tanquam afflatus sidere, aut (quod est in fabulis) Meduseos vultus conspexerit attonitus rigidusque consistit.”

These observations have referenee to cerebral apoplexy. I am not aware that it (catalepsy) has been hitherto regarded by any preceding or cotemporary writer amongst the causes of pulmonary apoplexy.

Dr. Copland in his Medical Dictionary,* treats of extasy and catalepsy in the same category, and he is evidently correct in doing so ; the former being but a modification, or a milder form of the latter. He has these remarkable words : “ Many of the cases which have lately made so much noise in this metropolis (London) under the idea of inspiration with ‘ unknown tongues,’ evidently belong to this affection; at least such of them as have not been feigned. The effects produced by the practisers of animal magnetism, upon nervous persons, sometimes appears allied to this affection. Many of the Italian improvisatori are possessed of this faculty only whilst they are in a state of extatic trance, similar to this disease. And few of them enjoy good health, or consider their faculty otherwise than a morbid one.”† The more profound the extasy is, so much the less excited and loquacious becomes the subject of it.

CASE I.—Miss O——, æt. 26 years ; born of healthy parents ; possessing uninterrupted good health since she arrived at her twentieth year, at which time the catamenia first appeared with her. For about three years previously, she was subject to rather severe attacks of hysteria ; and although her appearance and make indicated health and strength, her friends considered her at this time weak ; she was also highly susceptible of nervous impressions.

* Page 290. Catalepsy and cataleptic extasy.

† All writers agree as to the dangerous tendency of those affections. Dr. Gooch met a case that was followed by melancholia : Dr. Burrow's case was complicated with mania ; a similar case by Frank. Pinel records a case of catalepsy which terminated in apoplexy. Rostan states a case where inflammation of the lungs was associated with it. “ In many instances,” says Dr. Copland, “ these affections terminate as they commence, in most severe hysteria ; with which a very large proportion of them are more or less intimately allied.” Lienland and M. Heers make mention of fibrous concretions formed in the longitudinal sinus, with disease of the lung and liver.

Can these things be so, and will our rulers still permit the serious traffic in human health and life, which has been long, and is still carried on, under the specious delusion, and too often, it is to be feared, the designing knavery of the followers of Mesmer ?

About six months previous to my first visit to her, in the year 1827, I was informed her spirits became depressed, and she was observed to seek retirement and sit for hours without speaking, or seeming to attend to surrounding objects. These symptoms were ascribed to the sudden death of a gentleman to whom she was about to be married.

Her friends anxious to conceal her real situation, and hoping for an amendment when time had blunted the memory of her blighted hopes, deferred seeking for medical advice for her until there was added to the foregoing a violent attack of hæmoptysis, which had nearly deprived her of life.

I found her, a short time after the discharge of nearly a quart of very dark blood, partly coagulated, and holding a few bubbles of air only in the entire mass, weak, pallid, without sense or motion; she sat erect, however, in her chair, unsupported. Her features were fixed in a straightforward position, as if intent on an object, yet her eyelids were nearly closed, having a tremulous motion, and when opened, her eyes were fixed like her features; the pupils were rather much dilated, but contracted sluggishly on the application of a taper. Her hands hung by her sides, not rigid, nor fixed to that position, but when raised and suddenly loosed, fell to their original position. Her body, however, was rigidly fixed in its position, as was her neck and legs. Her pulse was regular, but feeble, it beat 67 in the minute; her respiration was inaudible, unless the ear was applied mediately or immediately to her chest, and then it was hardly to be heard; her chest sounded well in every part.

I was told she usually recovered from this state in about two hours, which statement was verified on this occasion. The first symptom of recovery was an unusual quivering motion of her eyelids. She groaned, opened her eyes as if from sleep, and spoke feebly. Her pulse now rose in frequency

and in strength; she took some food, and expressed herself totally unconscious of any thing uncommon having occurred beyond the spitting of blood, for the relief of which she was told I was summoned.

The treatment adopted consisted in occasional small bleedings from her chest, followed by blisters, each about the size of a dollar; heat and gentle stimulation to her legs and feet, aloetic purges; and suitable tonic and antispasmodic medicines; with lead, mineral acids, &c.

There was no return of the hæmoptysis for five days, although she had, during that period three cataleptic seizures, each resembling that I have described, with the difference of her arms being now more rigid and immoveable; and each attack was followed by an intense headach, which lasted for several hours. Her pulse, which at first fell about 15 beats in the minute, under the cataleptic seizure, now varied but from six to eight pulsations. Those attacks, too, became shorter and less intense during the succeeding ten days, and there was but one discharge of blood from her lungs.

During the following ten months the hæmoptysis seemed to be vicarious of the catamenia, the latter being absent altogether, and the former returning only about the regular periods for the uterine discharge. Her general health gradually improved, as the cataleptic seizures lessened in frequency and duration. At the end of one year she was able to visit a chalybeate spring; and soon after I was informed the catamenia returned at regular periods, and the catalepsy, hæmoptysis, &c., disappeared.

This lady is now the mother of a numerous offspring; has enjoyed perfect good health since her marriage, having had but one slight return of hæmoptysis during that time. She assures me those cataleptic seizures gave her no uneasiness at the time, she always felt as if she had been asleep; was only conscious of what passed about her a *short time* before opening her eyes, and about this time she also felt

distressed as if from an “*embarrassment*” in her chest, which soon went off.*

The following inferences seem to be deducible from the foregoing facts and observations:

1st. Hæmoptysis, pulmonary apoplexy, or both combined, may occur independent of any organic disease in the lungs themselves or elsewhere; and although examples of recoveries from such be rare, still they are of sufficient frequency to establish a rational system of treatment suited to each particular variety.

* The following case of catalepsy, where the individual remained conscious of passing events, is worthy of note, and is recorded by Professor Thompson. (*Lancet*, vol. i. 1836-7, p. 803). “A young lady, an attendant on the Princess —, after having been confined to her bed for a great length of time with a violent nervous disorder, was at last, to all appearance, deprived of life; her lips were quite pale, her face resembled the countenance of a dead person, and, her body grew cold. She was removed from the room in which she died, was laid in a coffin, and the day of her funeral was fixed on. The day arrived, and according to the custom of the country, funeral songs and hymns were sung before the door. Just as the people were about to nail on the lid of the coffin, a kind of perspiration was observed to appear on the surface of her body. It grew greater every moment, and at last a convulsive motion was observed in the hands and feet of the corpse. A few minutes after, during which time fresh signs of returning life appeared, she at once opened her eyes and uttered a most piercing shriek. Physicians were sent for, and in the course of a few days she was considerably restored, and is probably alive at this day.” She thus describes her situation:

“It seemed to her as if, in a dream, she was really dead; yet she was perfectly conscious of all that happened around her, in this dreadful state. She distinctly heard her friends speaking, and lamenting her death at the side of her coffin. She felt them pull on the death-clothes, and lay her in them. This feeling produced a mental anxiety that was indescribable. She tried to cry, but her soul was without power, and could not act on her body. She had the contradictory feeling, as if she were in her own body, and yet not in it, at one and the same time. It was equally impossible for her to stretch out her arm, or to open her eyes to cry, although she continually endeavoured to do so. The thought that she was to be buried alive was the first one that gave activity to her soul, and caused it to operate on her corporeal frame.”

2nd. Hæmoptysis rarely attends the asthenic form of pulmonary apoplexy, whereas that symptom is with far greater constancy present in the sthenic variety of that complaint.

3rd. Whereas the sthenic pulmonary apoplexy seems to arise from turgescence of the larger trunks and branches of the pulmonary sanguiferous system, the capillaries are the vessels mainly concerned in the asthenic variety.

4th. The sense of heat, formication, &c., generally present in the sthenic pulmonary apoplexy, is with equal uniformity absent in the asthenic kind.

5th. The more sthenic this species of apoplexy may be, the less does it seem to be under the influence of the nervous system; and *vice versa*, the asthenic variety of that complaint, the very lowest kind perhaps excepted, seems much modified by those mysterious influences.

6th. Reduced vital energy, arising from damp, or otherwise unwholesome gases, intemperance, or other irregularities in living, &c., are most apparent in that variety of the complaint which I have denominated "simple congestion," and which seems to involve both the large venous trunks and the capillaries.*

7th. That "cataleptic pulmonary apoplexy" being excited, and probably maintained under the influence of the nervous system, is but imperfectly understood. That the force of habit in disorders of this kind, coupled with the absolute danger to the brain, stomach, or lungs, from a congested state of their vessels,† teach the practical lesson, that

* Here are probably examples of that form of pulmonary apoplexy first described by Dr. Watson, in his valuable lectures on hæmorrhage, namely, a rapid and extensive effusion of blood, either fluid or coagulated, into the trachea, from a communication being established between it and an open vessel or vessels. This is admitted to give rise to pulmonary apoplexy as effectually as when the effusion originated in the vesicular structure of the lung.

† Those organs are liable to congestion in the order in which I have named them.

such a state of the system is dangerous in both these ways, and whether under the denomination of catalepsy, hybernation,* or mesmeric trance, should be avoided, and when present, cured *with all possible speed*.

N. B.—The subject of Rare Cases will be continued in an early Number of the *Dublin Journal*.

* In a very interesting paper on Hybernation, Dr. M. Hall remarks, that there is a strong analogy between this singular state and that of ordinary sleep, the former being only a much exaggerated state of the latter. In both the necessity of breathing is lessened, as established by Messrs. Allen and Pepys. In profound catalepsy it is not always easy to ascertain if the individual breathes. The temperature under both these states sinks, and the recovery from both is strikingly analogous, namely, immediate, and as if from sleep.

Dr. Hall, by a nicely contrived experiment, was enabled to examine the circulation in the wing of a bat in its state of hybernation; he found, that although the animal did not perceptibly breathe the circulation continued uninterruptedly, the number of pulsations in a minute was about 28. All the blood was venous, and he adds, “the curious fact is, that the left side of the heart, and also the arterial system, are now veno-contractile.” This phenomenon is one of the most remarkable in physiology, it accounts for the life of the animal being, in a great measure at least, independent of respiration, and is, in short, the key to the right explanations of the susceptibility of some animals taking on the hybernating state.

The blood thrown up in the foregoing cases of cataleptic pulmonary apoplexy was apparently venous.

BIBLIOGRAPHIC NOTICES.

Mesmerism.—Blackwood's Magazine, Feb. 1845.—p. 219.

Letters on Mesmerism.—By HARRIET MARTINEAU.

WOULD that every essay that has recently come before the public, on the subject of Mesmerism, had been written in the philosophical spirit with which that subject has been handled by the able and learned writer in *Blackwood's Magazine*, above referred to, to whom, though we cannot hail him as a professional brother, we ought to feel deeply gratified for having presented to us the result of his labours, on a subject, to which, of late, so much of public attention has been directed. His Essay, as he himself elegantly expresses of Mr. Hare Townshend's work, "stands out in prominent and ornamental relief," "from the many crude and unphilosophical speculations on the subject of mesmerism, which the present unwholesome activity of the printing press has ushered into the world." We should be glad to make copious extracts from it, but we must content ourselves with but as many as our limited space will admit of, and refer our readers for further information to the original article. We also recommend to the perusal of our readers, Doctor Forbes' account of the exhibition of mesmeric clairvoyance, published in the *Lancet*, vol. i. New Series, 1845.—p. 581.

Nothing has been so degrading to the human mind; nothing has led to worse consequences, than the too great credulity of man; the evils that have arisen from it, have been far worse than any which have sprung from his scepticism. The latter, though it may arrest for a time the progress of truth, has this advantage, that it leads to the thorough sifting of the testimony on which truth depends, and finally tends to establish it on a firmer basis than if such doubts had never existed. The evil results of his too great credulity have been fearfully evidenced by the cruelties that have been

inflicted by man on his fellow-man, during the darker ages, and of which there cannot be a better example than those cruelties which were practised on so many helpless beings, in consequence of his belief in witchcraft. We have too much confidence in the progress of knowledge, and the excellence of our laws, than to think that such scenes shall ever be again witnessed, at least in Great Britain. But though they may not be, errors as great and delusions as dangerous, though of a different character, may take possession, to a great degree, of the public mind. If the public, of the present time, should give credence to the many crude, false, and absurd statements, relative to mesmerism, which are every day foisted on them, we have no doubt that such belief would prove to be as pregnant of evil as any of the grossest superstitions of the middle ages. We certainly agree with Miss Martineau in the following observation, that if mesmerism (i. e., to the extent which its admirers would wish us to believe in it),

“ Is a cheat, that it is no laughing matter. If large numbers of men can, age after age, be helplessly prostrated under such a delusion as this, under a wicked influence, so potential over mind and body, it is one of the most mournful facts in the history of man.”

As Miss Martineau, and other writers on mesmerism, frequently refer, though we do not think in the best taste, to the miracles of Holy Writ, and the testimony on which they depend, we shall say, *en passant*, a few words on this subject. It would, we think, be of the utmost use to such writers to study more carefully the testimony on which the truth of Scripture miracles depends, and to imitate the plain narrative style with which they are recorded; the miracles of the New Testament were performed to prove the divinity of Christ, and the divine mission of his Apostles; they were intended to establish a great object, which, when effected, were no longer necessary, and of course ceased: that they would do so, we are told in Revelation,—they were admitted to be contrary to the ordinary course of nature and experience, and totally inexplicable by human reason,—so also are the alleged marvels of mesmeric clairvoyance. But there is this remarkable difference between the miracles of Scripture and the latter, that the miracles of Scripture were of such a nature as to be incontestable by those who witnessed them; but such is not the case with regard to mesmeric clairvoyance. The impartial writer in *Blackwood's Magazine* thus expresses himself on this subject:

“ Mr. Townshend has failed to convince us that all the facts in

mesmerism are facts; and certainly, if he has failed, the herd of peripatetic lecturers, on the so-called science, are not likely to have succeeded; but, although unconvinced of the marvellous, we are by no means indisposed to believe some of the abnormal phenomena of mesmerism. We have witnessed several mesmeric exhibitions. We have never seen any effect produced which was contradictory to the possible of human experience, in which collusion or delusion was fairly negatived. We insist on our right to doubt or disbelieve. The more startling the proposition, the more rigorous should be the proof. We have never seen the tests, which are applied to the most trifling novelty in physical science, applied to mesmeric clairvoyance, and withstood. The advocates of it challenge inquiry in print; but they shrink from, or sink under, experiment."

We are ready to admit, that some of the laws of nature, for instance the instincts which direct the lower animals, are as wonderful and as little discoverable by reason as any of the miracles of Scripture, or the alleged marvels of mesmerism, and of which all we can say is, that they are laws established by the Deity to serve as a substitute for reason. The existence of these laws is, however, incontestably proved by the clearest evidence, and they have been conformable to the experience of mankind in every age. What we have just been writing belongs more to the province of the theologian than to our's; we would not, therefore, have dwelt so much on it, but that we have been frequently asked by the admirers of mesmerism, how can you believe the testimony in favour of the miracles of Scripture and not our's?

Though the experiments made at the exhibitions we ourselves have witnessed of mesmerism, to our minds, were failures, we cannot refuse our assent to the truth of the accounts of so many credible witnesses, that occasionally a somnambulatory state may be induced by the so-called mesmeric influence, differing from ordinary sleep, or, in the words of the writer already quoted, "that a power may be exercised by one human being over another which will produce a comatose or cataleptic state."

As cases of amputation, extraction of teeth, divisions of tendons, and many minor operations, have been recorded, in which the patients are said to have suffered no pain while under the mesmeric influence, we certainly think that this writer has much reason for the following observation:

"Though we have never had an opportunity of witnessing such effects, we think that for the benefit to suffering humanity, the possibility, however remote, of their truth, deserves more calm and dispassionate inquiry, than appears hitherto to have been given them."

At the same time we cannot but express our apprehension, that more mischief is likely to arise in a moral point of view from the practice of mesmerism, than any good that may be attained by it from the relief of physical suffering. In recommending us how to examine the phenomena of mesmerism, the author judiciously writes :

“ We shall do our utmost to avoid the vices of partial advocacy which we censure ; we moreover agree with Mr. Townshend, that ridicule is not the weapon to be used. Satire, when on the side of the majority, is persecution : it is striking from a vantage ground, fair, perhaps, when the individual contends with the mass, as when an author writes to expose the fallacy of social fashion—but unfair, and very frequently unsuccessful, when directed against partially developed truths, or even against such phenomena as we believe mesmerism presents, viz., novel and curious psychical truths, overclouded with dense errors, of sometimes enthusiasm, and sometimes knavery. We shall soberly examine the subject, because we think that much good may be done by its investigation. The really skilful and judicious steer clear, from a fear of compromising their credit for common sense ; and while the caution necessarily attendant upon habitual scientific studies, dissuades the best men from meddling with that which may blight their hardly earned laurels, the public is left to be swayed to and fro by an undercurrent of fallacious half truths, far more seductive and dangerous than absolute falsehoods. We cannot undertake to say thus far is true, and thus far false ; to mark out the actual limits of true mesmeric phenomena demands the very difficult and detailed inquiries, which, for the reasons just mentioned, have been hitherto withheld ; but we think we shall be able to succeed in shewing, that though there be much error, there is some truth, and truth of sufficient importance to merit a calm and careful investigation. We may class the phenomena of mesmerism, as asserted by its professors, as follows :—

“ 1st. Sleep or coma, induced by external agency (partly mental, partly physical).

“ 2nd. Somnambulism, or, as called by Mr. Townshend, sleep-walking, i. e., certain faculties rendered torpid, while others are sensitive.

“ 3rd. Insensibility to pain, and other external stimuli.

“ 4th. Physical attraction to the mesmeriser, and repulsion from others ; community of sensation with the mesmeriser.

5th. Clairvoyance ; or the power of perception without the use of the usual organs ; and second sight, or the power of prediction respecting the mesmeric state, and remedial agencies.

“ 6th. Phreno-mesmerism, or the connexion between phrenology and mesmerism.

“ 7th. Curative effects.”

First. As to the power of inducing coma, the author give

two very interesting cases which fell under his own observation; they bear the stamp of truth, and it is almost impossible not to give credence to them; the individuals on whom the mesmeric influence was exerted were both females; we would be glad to transfer these cases to our pages, but our limits will not permit. We shall take this opportunity of observing, that most of the cases we have read and heard of, in which the mesmeric influence proved effectual, were those of females. If it be the case, that the great majority of such cases belong to the fair sex, it is remarkable, as hysteria and catalepsy are almost exclusively confined to that sex. The author, however, extracts two cases of induced coma from Mr. Hare Townshend's work, which we strongly recommend to the perusal of our readers, in which both cases were men, and in which there could be no deception, as one was that of the celebrated professor of natural history, M. Agassiz, and the other of Signor Raniere, the historian.

3rdly. As to insensibility to pain, and other external stimuli, we have already made a quotation from what the author has said on this subject. He is evidently undecided on this point.

4thly. He appears to consider the experiments which he witnessed, to prove physical attraction towards the mesmeriser inconclusive.

5thly. We are glad to see, that he gives no credence whatever to the marvels attributed to mesmeric *clairvoyance*. As he makes several judicious remarks on this subject, we shall quote them, particularly as they form an admirable commentary, though not intended as such, to many of the doctrines advanced in Miss Martineau's letters, and may serve as most useful hints to many of our professional brethren, to assist them, not only in reasoning on mesmerism, but on all empirical systems. The author thus reasons:

“ It is very properly argued, that our whole knowledge of the normal course of nature is derived from experience; that a law is a mere generalization from that experience, and is not any thing intrinsically or necessarily true. Thus, if the sun were to rise in the west to-morrow, instead of in the east, it would, at first sight, appear to be a deviation from natural laws, in other words, a miracle; if, however, the latter circumstance were wanting, after the first sensation of the marvellous had subsided, the philosopher would inquire, whether instead of being a deviation from a law, it were not a subordinate instance of some higher law, of which the period of history had been too short to give any coordinate instance; and if it were found, by a long course of experience, that in every 4000 years a similar retrocession of the earth took place, a new law would be established. Ap-

plying this to mesmerism, it is said, our notions of sleep and waking, of sight and hearing, and of the probable limits and modes of sensation, are derived from experience alone ; we cannot estimate or understand the *modus agendi* of a new sensation, because we have never experienced it. If, then, it be proved, by the acts of A., B., C., that they attain cognizance of objects by other means than those which any known organ of sensation will permit, you must admit the fact, and by degrees its rationale will become supported by the same means as all other truths are supported, viz., by habitual experience. The law is indeed nothing but its constant recurrence, under similar circumstances."

The author here cites an eloquent passage from Mr. Townshend's work, to give Mr. Townshend's own mode of enunciating what we have just quoted. This passage may appear to be rather tedious, and too abstract for many of our readers, but we believe that it suggests the best mode of reasoning which the advocates of mesmerism can have recourse to. To teach those who are sceptical on that subject, how to meet them on this ground, the author gives some excellent instructions. They are as follows :

" In order that the mesmeriser may support himself on this high ground, his proof must be demonstrative ; he must be able to say, I ask not for faith, nor even a balanced mind, but doubt to the utmost. Examine with the most rigorous scepticism. I stand upon the facts alone. I offer no explanation, or, at least, I make their truth dependent upon no explanation. They are, or they are not. I will prove their existence, and I defy you to disprove them.

" It will not, we conceive, be denied, that one essential attribute of the social mind, a jealousy of credence in apparent anomalies, is a just and necessary guard upon human knowledge. If mere assertion were believed, every succeeding day would upset the knowledge of the preceding day, and, however high the character of the assertor of new and abnormal facts may be, he must not expect them to be received upon the strength of his assertion. The best men may be deceived, and the best men may be led astray by enthusiasm. When the slightest discovery in physical science is published, it is immediately assailed by doubts from every quarter, and its promulgator, if he be accustomed to research, and trained to scientific investigation, never complains of these doubts, because he knows the vast number of perplexing deceptions in which he has himself been entangled, and the caution with which he himself would receive a similar announcement.

" It is vain to cite instances of truths unappreciated by the age in which they were advanced. We deprecate, as much as any, the persecution with which, occasionally, men who have seen far in advance of their age, have been attacked ; but the saying, ' malheureux celui qui est en avance de son siecle,' is not always true ; if the new truth

be difficult of demonstration, it will be proportionably tardy of reception, but if easy of proof, it is very rapidly received."

As an example of this, the author instances the discovery of Volta.

The results afforded by Mr. Babbage's calculating machine afford a beautiful illustration of this subject, and has been adduced as such in his so-called *Ninth Bridgewater Treatise*. The miracles of Scripture, as we have already remarked, are striking instances of occurrences contrary to the usual course of nature, and totally inexplicable by reason, which have met the tests laid down by our author. Some of the vast geological changes, such as the deluges, which have taken place, are instances of occurrences, that, perhaps, though not inexplicable according to the received laws of nature, are, certainly, contrary to all ordinary experience; instincts, on the contrary, as we before remarked, are instances of laws totally inexplicable by reason, yet quite in accordance with our ordinary experience.

The author thus speaks of magnetism and electricity, as contrasted with mesmerism:

"Magnetism and electricity, moreover, often cited by Mr. Townshend, and, undoubtedly, the most surprising additions to human knowledge within the historical period, though abnormal, are not contradictory to experience; they were an entirely new series of facts, added to our previous store; they did not destroy or lessen the force of any previously received truths. Not so mesmerism; and, therefore, the more stringent should be, and is, the proof required."

We shall now quote some of the arguments, which, to our minds, seem very conclusive, by which the author demonstrates the fallacy of the reasoning with which Mr. Townshend endeavours to prove the conformity of the mesmeric marvels with general experience. In following our author, we must hold in view, that he is now reasoning according to the recognized laws of nature, and principles of physics:

"In short we think we do not unfairly express the author's (Mr. Townshend's) theory in the following query. As the application of the highest human powers (those of Newton, for instance) have resolved the transmission of light to the sensorium into the vibrations of an all-pervading ether, what is more probable than that a similar ethereal medium may convey sensations of objects through other channels? This may be, but another important ingredient is wanting, viz., organization; or definite molecular arrangement. Prick the eye, and by the resulting morbid derangement, change the molecular arrangement of its particles, and vision is destroyed. Pulverize the glass through

which you look and it is no longer transparent. The ether (if there be an ether), in the pores of these substances, can only convey correct impressions when these particles have a definite arrangement; but the mesmeric ether (Mr. Townshend's) is dependent upon no such necessity. Density and tenacity, opacity and transparency, homogeneous or heterogeneous, are all equally penetrable; and, what is more strange, the mesmeric ether conveys correct and not distorted impressions. The same perception of form which is conveyed through air, is conveyed through the cover of a book, through the bones of a skull, or the muscles of the stomach. And still more extraordinary, this impression is identical as to the mental idea it conveys, with that conveyed in the normal manner through the eye. The mesmeric ether has therefore not only the power of conveying impressions, but of preserving their continuity through any impediment. The formal impressions of a chair or table which are conveyed by ordinary vision in right lines to the retina, if these lines be distorted by an intervening want of uniformity in the matter, are proportionably distorted. Let striæ of glass, of different density, intervene in an optical lens, and the objects are distorted; increase the number of striæ, the object is more imperfect; and carry the molecular derangement further, opacity is the result. Transparency and opacity then, viewed apart from all hypothesis, resolve themselves into organization or molecular arrangement: yet, by the mesmeric medium, a chair or table is conveyed to the recipients in its distinct form, or, what amounts to the same thing for the argument of conformity, they give to the mind distinct ideas of these objects. If, therefore, there be a mesmeric medium, which, being a purely hypothetic creation, cannot be disproved, its requisites must be so totally at variance with the requisites of ordinary ethereal media that none of the rules which can be applied to this can be applied to that.

“Many of the objects of vision—all, indeed, by which reading is effected—are purposely constructed to suit the peculiar organization of the eye; they are artifices specially appropriated to give sensations. Thus black letters are printed on white paper, because experience has told us that black reflects no light, while white reflects all the incident light. If we wish to read by another sense we adapt our object to such a sense; thus for those who read by the finger, raised letters are prepared, differing from the matrix in position, but not in colour. If we read by the ear we address it by sounds, and not by forms or colours, and it would be far from impracticable to read by smell or taste, by associating given odours or given tastes with given ideas.

“In all this, however, each sense requires a peculiar education and long training; it is only by constant association of the word *table* with the thing *table* that we connect the two ideas; but mesmeric clairvoyance not only conveys things as things in all their proper forms and colours, without the intervention of the usual senses, but it also dispenses with education or association, or instantly adapts to a new sense the education hitherto specially and only adapted to another.”

We may here refer to the well known instance cited by Locke to shew how little we can appreciate by another sense the ideas perceived by one sense, of the blind man who said the colour scarlet was like the sound of a trumpet; also to the blind man spoken of in Scripture, who, when asked, after being restored to sight, what he saw, said, men like trees walking.

The learned writer sums up his arguments by saying:

“1st, That without undervaluing testimony, mesmeric clairvoyance is not sufficiently proved by competent witnesses to be admitted as a fact.

“2nd, The reasoning in support of it is insufficient, and, in most cases, fallacious.”

And finally says on the subject:

“Perhaps the best arguments employed by Mr. Townshend in favour of the possibility of clairvoyance are the authenticated cases of normal sleep-walking. These have been very little examined, but appear in one respect strikingly to differ from mesmeric coma. The eyes of the somnambulist are said to be open, and therefore there is every optical power of vision, and an increase of ordinary visual perception is all that is requisite. The acts performed by the sleep-walker are, moreover, generally those to which he is habitually accustomed, and when this is not the case he fails, as many disastrous accidents have too fatally testified.”

As to the sixth category, phrenomesmerism, or the connexion between phrenology and mesmerism, the following is what our author observes:

“Viewed abstractedly, the attempt to support, by the assumed accuracy of one science, at best in its infancy, and confessedly fallible, another still more so, is making too large demands upon public credulity, to require much counter argument.”

The author gives no opinion of his own relative to the curative effects of mesmerism. He merely confines himself to the quotation of a case, apparently of amaurosis, from Mr. Hare Townshend's work. The effects of it in this case, to our minds, was anything at all but satisfactory.

As to the means whereby the mesmeric effects are induced, our author makes the following observations:

“From the remark made by the mesmeriser (the gentleman who was the mesmeriser in the two cases which we have already mentioned that our author witnessed), viz., that the only influence he was conscious of exerting was that of a fixed determined stare, this may possibly afford some key to a more philosophical examination of these curious phenomena.

“ The fabled effects of the basilisk, the serpent, and the evil eye, have probably all some facts for their foundation. The effect of the human eye in arresting the attacks of savage animals is better authenticated, and its influence upon domestic animals may be more easily made the subject of experimental proof. Let any one gaze steadily at a dog half-dozing at the fire-side, the animal will, after a short time, become restless, and, if the stare be continued, will quit his resting-place, and either shrink into a corner or come forward and caress the person staring. How much of this may be due to the habitual fixed look of stern command with which censure or punishment is accompanied it may be difficult to say, but the fact undoubtedly is, that some influence, either innate or induced, is exercised. Again, those who in society habitually converse with an averted glance, we generally consider wanting in moral force. We doubt the man who doubts himself. On the other hand, if, in conversation, the ordinary look of awakened interest be prolonged, and the eyes are kept fixed for a longer period than usual, an embarrassed and somewhat painful feeling is the result; an indistinct impulse makes it difficult to avert the eye, and at the same time a consciousness of that impulse is an inducement to avert it. We lay no undue stress on these phenomena; but they are phenomena, and fair subjects for scientific investigation. An explanation of mesmerism has been sought in the physical effect of the stare alone; thus it is said that if a party look intensely at a prominent object fixed to his forehead, he will in time be thrown into a mesmeric coma. There is more in it, we think, than this; there is an influence excited by that nearest approach to the intercourse of soul, ‘the gaze into each other’s eyes’—the extent and source of which are unknown. The schoolboys’ experiment of staring out of countenance, is not so bad a test of moral power, as it would, at first sight, be deemed to be.”

Whatever may be the nature of the effect here produced, the author, we think, lays too much stress upon what he terms moral power. We do not know whether he can bring under this head the dazzling effect of extreme beauty*—“the might—the majesty of loveliness.”—He might, in our opinion, have alluded more fully to the effects of monotonous sounds, and uniform motions; of the latter, the composing of infants to sleep by means of the rocking of the cradle, is a familiar instance; the frequent repetition of the same idea, or of similar ideas, such as the counting of numbers, tends also strongly to induce sleep.

Of Miss Martineau’s letters, after apologising for not

* Erzog in einz’ges wunderschönes kind,
Zwar wollte man in unserm Dorfe schwören,
Ein jeder werd’ in ihrer Nähe blind.

noticing them more at length, in consequence of the lateness of their publication, he thus observes, in which we agree with him :

“They have not induced us to alter anything we have written ; they have indeed confirmed one remark made above. The effects described by Miss Martineau as produced upon herself, are credible, and not preternatural, while the second sight of the girl J. is preternatural, and not credible, i. e., not credible, as preternatural, otherwise easily explicable.

“In this, as in every mesmeric case, the marvellous effects are developed by the uneducated—the most easily deceived—and the most ready to be deceivers.

“The clairvoyant writers have greatly the advantage of the sceptics in one respect, viz., the public interest of their communications. Every one reads the descriptions of new marvels ; few care to examine the arguments in contravention of them.

With regard to Miss Martineau's own case, we shall say but little, as we own, notwithstanding Dr. Greenhow's account of it, that it is to us a very obscure one. In justice, however, to Dr. Greenhow and Sir Charles Clarke, we consider it our duty to make a few extracts from the published account of the former physician, relative to the prognosis and treatment, as it is at variance with the following statement in Miss Martineau's letters :

“Nobody in the world would undertake to say I was wrong in seeking even recovery by any harmless means, when every other hope was given up by all, and it was not recovery that was in my thoughts, but only solace. It never presented itself to me as possible, that disease so long and so deeply fixed could be removed, and I was perfectly sincere in saying, that the utmost I looked for, was release from my miserable dependence on opiates.”

The following passages are extracted from the condensed account in the *Lancet* (vol. i. 1845.—p. 19), of Dr. Greenhow's medical report of the case of Miss Martineau. “In Sir Charles Clarke's written opinion, dated September 30th, 1841, it is stated, ‘I have known such complaints as Miss M.'s subside, and I would employ for this purpose the continued external use of iodine ointment.’ Dr. Greenhow then says : “but which my patient refused to carry into effect. Therefore I proposed a course of iodide of iron, which, with short intervals, was persevered in till July or August, 1844. The distressing sickness was thus greatly mitigated, the appetite improved, and increased health and mental energy shewed itself.” He then gives the patient's own opinion of its effects

in September, 1843, which is much to the same effect, and observes :

“ That oftener than once I have used the expression, that probably *before long*, she would take up her bed and walk. In this case, the advocates of mesmerism may try to find arguments in support of their opinions ; but the experienced practitioner will have little difficulty in bringing the whole into harmony with the well-established laws of human physiology. The condition of the uterus, in 1844, is but the natural sequel of progressive improvements begun in April, and the time had arrived when a new and powerful stimulus only was required to enable the enthusiastic mind of my patient to shake off the nervous symptoms.”

“ A glance at the prescriptions employed, except on particular emergencies, during the last three years, will shew the error of supposing that Miss M. was in the habit of seeking relief in large and immeasured doses of opium.”

That Miss Martineau, as is evident from her letter, should be a great enthusiast on the subject of mesmerism, is very excusable, as she attributes to it the relief she obtained. Whether this was the case or not we consider very doubtful, most probably it was owing to the excitement of her imagination on that subject. Miss Martineau is too good a reasoner not to be aware, that if recovery ensues subsequent to the use of any supposed remedy, that it does not follow, because it is *post hoc*, that it should be *propter hoc* ; it is not until recoveries frequently take place after the use of the same remedy in similar cases, that we can say that they result from that remedy. Dr. Cheyne has remarked, and indeed it is generally well known to physicians, that much of the success attendant on the practice of eminent physicians, is owing to the confidence that patients have in their skill. The mere confidence that a credulous person may repose in the treatment of an empiric, may in some cases induce a cure, though the remedy administered be totally inefficacious ; this, however, is no argument in favour of empiricism, because, for the few cures that may be thus effected, an infinity of mischief may arise, from the public thus being led to place a false confidence in empiricism, and thus that opportunity of producing relief, by the proper exercise of art, may be lost.

We shall give two cases, which came under our own observation, which, we think, well illustrate the effect of the mind over disease. One was a case of hysteria, that of a young lady who had lost the use of her lower limbs, in con-

sequence of the hysterical affection, and had not been able to walk for a long period. Having been recommended change of air and scene, she merely went, for a short time, on a visit to an agreeable family of her acquaintance, and quickly recovered. The other was that of a gentleman, who was seized with hemiplegia of the right side from apoplexy: after having been for some time submitted to treatment, he recovered the use of the lower extremity, but his arm continued for some time paralysed. One morning, however, a friend to whom he was much attached, and whom he had not seen for some time, unexpectedly visited him, by a sudden effort of the will, he extended his right arm, which had been previously paralysed, to shake hands with him, and ever since retained the use of his arm.

We fully approve of what Miss Martineau recommends, with regard to the investigation of the phenomena of mesmerism, "to sit down patiently before the great subject (as she styles it), watching and waiting for knowledge to arise and come forth;" but we think that the fair authoress might better employ her time, as her mind, in our opinion, is of too enthusiastic a stamp, to make correct deductions from what she observes on this subject. This we shall endeavour to shew, from her account of the mesmeric *clairvoyance* of the girl J. Of this young woman, she states:

"When I entered my lodgings, nearly five years ago, I was waited upon by my landlady's niece, a girl of fourteen; from that time to this she has been under my care, and now, at the age of nineteen, she has all the ingenuousness and conscientiousness, that won my respect at first, with an increased intelligence and activity of affection."

After this admission, it appears to us almost impossible, but that the girl must have heard much about Miss Martineau's previous life, either from Miss Martineau herself, or her friends; and still Miss Martineau says:

"I cannot here detail the wonderful accuracy with which she related, without any possible knowledge of my life ten and twenty years ago, the origin and progress of my ill health, of the unavailing use of medical treatment for five years, and the operation of mesmerism upon it of late."

We shall give one extract more, to shew Miss Martineau's credulity on this subject:

"The next evening (Monday, October, 14th), I did not come up as usual to our *seance*. There was affliction in the household. An aunt (by marriage), of J.'s, Mrs. A., a good woman I have long known, lives in a cottage at the bottom of our garden. Mr. A.'s son, J.'s

cousin, was one of the crew of a vessel which was this evening reported to have been wrecked near Hull. This was all that was known, except that the owner was gone to Hull to see about it. J. was about to walk to Shields, with a companion, to inquire, but the night was so tempestuous, and it was so evident no news could be obtained, that she was persuaded not to go. But she was too much disturbed to think of being mesmerized. Next morning there was no news. All day there were flying reports—that all hands were lost—that all were saved, but nothing like what afterwards proved to be the truth. In the afternoon (no tidings having arrived), we went for a long drive, and took J. with us. She was with us in another direction till tea-time; and then on our return, there was no tidings; but Mrs. A. was gone to Shields to inquire if letters had come; she would bring the news in the evening. *J. went out on an errand while we were at tea*, no person in the place having then any means of knowing about the wreck, and on her return, she came straight up to us for her *seance*. Two gentlemen were with us that evening, one from America, the other from the neighbourhood. I may say that we noted down at the moment what J. said, and that on this evening there was the additional security of my American friend, repeating to me on the instant (on account of my deafness), every word as it fell.

J. was presently asleep, and her mesmerizer knowing the advantage of introducing the subject on which the mind had previously been excited, and how the inspiration follows the course of the affections, asked, as soon as the sleep was deep enough, 'Can you tell us about the wreck?' J. tranquilly replied, 'Oh! yes, they're all safe; but the ship is all to pieces.' 'Were they saved in their boat?' 'No, that's all to pieces.' 'How then?' 'A queer boat took them off; not their boat.' 'Are you sure they are all safe?' 'Yes, all that were on board; but there was a boy killed. But I don't think it was my cousin.' 'At the time of the wreck?' 'No, before the storm.' 'How did it happen?' 'By a fall.' 'Down the hatchway, or how?' 'No, he fell through the rigging from the mast.' She presently observed, 'My aunt is below, telling them all about it, and I shall hear it when I go down.'

"My rooms being a selection from two houses, this 'below' meant two stories lower in the next house." * * * *

"Two evenings afterwards J. was asked, when in the sleep, whether she knew what she related to us, by seeing her aunt telling the people below? to which she replied, 'No, I saw the place and people themselves like a vision.'

"Such was her own idea, whatever may be the conjectures of others."

We know what our conjectures are. Such is a specimen of the evidence with which Miss Martineau would induce the public to believe in the miraculous wonders of clairvoyance; the mind indeed must have been blinded by enthusiasm, not to have at once suspected collusion

and deception in this case. What could have been more likely than, when the girl went out upon an errand, that she saw either her aunt, or some other person, who informed her all about the shipwreck; and was it not a most suspicious circumstance, that on her return she should have asked for her *seance*. Miss Martineau may have a very high opinion of this girl's truthworthiness, but she is not to expect the public to be equally credulous, so as to believe in all her mesmeric revelations. It may be asked, what inducement could this young woman and other persons famed for their mesmeric powers have to deceive? The love of notoriety and applause, and the prospect of gain, may be an inducement to some. In a recent number of the *Lancet* (for Feb. 1st, 1845), there is published in a note by the sub-editor of the *Lancet* to an account of the *Rise and Progress of Mesmerism*, by Dr. Radcliffe Hall, the following extract from a letter by Dr. Perrochaud, of Boulogne Sur Mer, in answer to some inquiries concerning a woman named Petronille, who performed great mesmeric marvels:

“ It is quite true that the famous Petronille, who was at one time considered an extraordinary somnambulist, confessed to me some days before her death that she had constantly deceived the good faith of those who performed magnetic experiments on her. She gave me many details respecting the tricks she resorted to in order to abuse the learned and conscientious persons who afterwards, on those experiments, founded memoirs and reports extremely favourable to magnetism. ‘ I was very often wrong,’ she said, ‘ but when I approached the truth or had guessed nearly right, all present clapped their hands and exclaimed it was a miracle, and this made up for my mistakes.’ ”

In Miss Martineau's preface there is mention made of a new literary organ for philosophical mesmerisers being already in contemplation. Should all the writers for it be as enthusiastic on the subject as Miss Martineau herself, we would recommend a name for it that has been adopted for that of a journal supported by contributions from the pens of the inmates of a lunatic asylum in Dumfries—it is styled the “*New Moon*.” We do not write this to discourage our readers from a fair inquiry, but to dissuade them against giving the reins to their enthusiasm.

We are heartily glad of the fair authoress's recovery, to whatever cause it may be owing, and earnestly hope, that she will devote her talents to objects more suited to them than experiments in mesmerism; or if she be too much wedded to that so-called science to give it up, that she will attend to her own excellent advice: “ Let experience, carefully ob-

tained, be wisely collected and philosophically communicated." Otherwise the result will be likely to prove more mischievous than useful. Let her not be like those—

“ Who greedily pursue
Things wonderful instead of true.

* * *

Hold no truth worthy to be known,
That is not huge and overgrown.”

We must, however, do her the justice to say, that we believe her to be actuated by no other motive than the investigation of truth for the good of mankind.

Elements of the Comparative Anatomy of the Vertebrate Animals. By RUDOLPH WAGNER, M. D., Professor of Comparative Anatomy and Physiology in the University of Göttingen, &c. Edited from the German, by ALFRED TULK, M. R. C. S. London, 1845.

ALTHOUGH several very excellent treatises on the subject of comparative anatomy have lately issued from the British Press, yet the want of some good elementary work, which, in a compendious form and at a moderate expense, would furnish the student with the present amount of our knowledge upon the anatomy of vertebrate animals, has hitherto been a subject of complaint.

This want has been admirably supplied by the “*Lehrbuch der Zootomie*,” from the pen of Professor Wagner, who has already attained so high a reputation among the medical profession, through his *Elements of Physiology*, translated by Dr. Willis.

The volume before us contains a clear and concise description of the tegumentary, osseous, muscular, nervous, digestive, circulatory, respiratory, and generative systems; the organs of the senses, the urinary organs, and particular organs of secretion in mammalia, aves, reptilia, and pisces.

At the end of each class is inserted a list of the best authors who have written on its anatomy, forming a most useful and complete bibliography of the subject.

In his selection of Dr. Wagner’s manual for translation, Mr. Tulk has evinced much judgment; and for the manner in which he has edited it, he deserves great credit. We strongly recommend it to the Profession, as a work which should be in the possession of every one who wishes either

to keep up his knowledge, or to enter upon the study of the comparative anatomy of the vertebrate animals : and we sincerely trust that the encouragement which it may receive, will enable Mr. Tulk, at no distant period, to give the promised atlas of illustrative plates.

An Explanation of the real Process of " Spontaneous Evolution of the Fœtus." By JOHN C. DOUGLASS, M. D., &c. Third Edition.

ANY man who offers to the public a new and different explanation of a familiar occurrence, must expect to meet with considerable opposition to his views, and still more, if the occurrence be rare, the opportunity of witnessing the entire process infrequent, and above all, if his explanation be opposed to that received " in the schools." This was the early fate of Dr. Douglass's tract, but the respected author has lived to see not only the accuracy of his explanation admitted, but also to find it universally admitted that he was the first to give the true one.

On this account, and for the credit of our country, we are glad to see a reprint of this valuable monograph, and we are sure that it will find its way into the hands of all our obstetric readers.

At the present time it will not be necessary for us to enter into a minute consideration of the subject : a slight sketch may suffice.

The first case on record was observed by Dr. Denman in 1772, and the second in 1773, by the same distinguished practitioner, who applied to the process the term " spontaneous evolution," from the opinion that the child turned upon its axis. We have his letter to Dr. Douglass informing us that the fact, as well as the theory, was, for a long time, disbelieved.

Dr. Denman conceived that the body of the child being doubled, successive pains drove down the breech, and as this descended, the shoulder ascended into the uterus. Dr. Douglass, on the contrary, affirms, " that not one line of the arm, or of any other part of the child, once descended, are withdrawn into the uterus."

Dr. Douglass's observations were published in 1811, and though at first received with doubt, further observations have completely verified them, and they have superseded those of Denman and others, who succeeded him. We have ourselves

had an opportunity of witnessing the whole process minutely, from first to last, and can bear testimony to the admirable accuracy of our author’s description.

After mentioning that in these cases the “shoulder of the child is forced very low into the pelvis,” just previous to the occurrence, he adds :

“I cannot comprehend how successive repetitions of the same propelling power which forced the child into this situation, should subsequently, *at any period*, produce a counter-effect, causing the shoulder to retreat into the *uterus*. The fact, however, is,—that the shoulder and thorax, thus low and impacted, instead of retreating into the *uterus*, are, at each successive pain, forced still lower, until the ribs of that side, corresponding with the protruded arm, press on the *perineum*, and cause it to assume the same form as it would by the pressure of the forehead in a natural labour. At this period, not only the entire of the arm, but the shoulder, can be perceived externally, with the clavicle lying under the arch of the pubis. By further uterine contractions, the ribs are forced more forward, appearing, at the *os externum*, as the vertex would in a natural labour ; the clavicle having been by degrees forced round in the anterior part of the *pubis*, with the *cranium* looking towards the *mons veneris*. The lower part of the same side of the trunk presses on the *perineum*, with the breech either in the hollow of the sacrum, or at the brim of the pelvis, ready to descend into it ; and by a few further uterine efforts the remainder of the trunk, with the lower extremities, is expelled. The breech is not always expelled sideways, as the upper part of the trunk had previously been ; for during the presence of that pain by which the evolution is completed, there is a twist made about the centre of the curve (formed by the child), at the lumbar *vertebræ*, when both buttocks, instead of one side of them, are thrown against the *perineum*, distending it very much, and immediately after the breech, with the lower extremities, issues forth, the upper and back part of it appearing first, as if the back of the child had originally formed the convex, and its front the concave side of curve.”—pp. 25, 26, 27.

In confirmation of the correctness of this description, Dr. Douglass refers to cases by Drs. Gooch, F. Ramsbotham, Wardsworth, and Churchill, and we may add one by Dr. Neligan, now of this city.

Our space will not permit of our quoting Dr. Douglass’s cases, nor do we think it necessary. We most cordially recommend this little essay to all our readers, as the work of a highly intelligent practitioner of great observation and rigid accuracy ; and we regard it with especial interest, as that which (along with Dr. Clarke’s reports and papers) laid the foundation of the high repute of Dublin as a school of midwifery.

SCIENTIFIC INTELLIGENCE.

Address delivered to the Dublin Obstetrical Society at the Opening of its Seventh Session, on Friday Evening, the 29th of November, 1844, by Thomas Edward Beatty, M. D., M. R. I. A., Professor of Midwifery, &c., to the Royal College of Surgeons, Physician to the City of Dublin Hospital, Vice-President of the Society.—It augurs badly for any performance when it is introduced with an apology; and an audience is very apt to listen with indifference, if not with impatience, to an address, when the author commences by throwing himself on their mercy, and claiming their indulgence, for the many imperfections with which he knows it is chargeable.

The present is, I regret to say, one of those unfortunate occasions; unfortunate for you, who have come expecting (and, from your experience of former addresses from this chair, justly expecting), to hear matter calculated to inform, elevate, and gratify the mind; and unfortunate for myself, anxious as I am to fulfil your expectations, yet knowing that they must suffer disappointment at my hands. The fault, however, is not wholly mine; the shortness of the time which has elapsed since the Committee did me the honour to request I would deliver the opening Address to the Society, must be my excuse; and at the same time it must be remembered, that to me the most hurried and important month in the whole year is the present month of November, in which I have had to prepare for and commence two courses of lectures. For these reasons I have had not many leisure hours to devote to the preparation of the task which your kindness has imposed upon me.

Honoured as I have been, by the appointment of Vice-President of this Society, I felt bound, however, to undertake the duty required of me, at all risks; and I was induced the more to do so by the consideration, that if I refused, on the plea of short notice, time must be consumed in obtaining another to fill my place, who would then be in a worse position than myself, and would have better grounds of complaint that he had not sufficient notice for preparation. I have accordingly thrown together a few hurried observations, and I will trust to the kind indulgence which I have so often experienced at your hands, while I proceed to lay them before you.

Under any circumstances it must be now a difficult task to compose a suitable address at the opening of the Dublin Obstetrical Society. From the nature of the Society, the field over which the author can travel in search of novel or interesting matter, is necessarily limited, and the number of able and skilful gleaners who

have already gone over the ground, have left but a few stray grains to be picked up by those who have to follow in their wake. Many of my hearers have been annually delighted with the able and scientific addresses delivered by my predecessors from this chair; and most of us have a lively recollection of that learned, eloquent, and chaste composition with which we were favoured, at the opening of the last session, by Professor Montgomery.

To address a Society not limited, as our's is, to one branch of medicine, would not be so difficult a task. He who undertakes to open a general medical Society, with all its wide spreading branches before him, can be at no loss to find plenty of fruit ready to be gathered into his basket, and form a cornucopia of instruction and entertainment. But when, instead of many branches, he has but one presented to his view, as is the case in our Society, and finds, moreover, that the many refined epicures who have preceded him, have picked the choicest and richest fruit, he despairs of collecting sufficient of the refuse to form a presentable dish.

But fortunately, Gentlemen, our Society does not now stand in need of any forcible or eloquent arguments to explain its objects or stimulate you to its support. It has been in active operation for a period of six years, and in all my experience of societies for scientific purposes, I have known none that came so rapidly into steady and useful work, none that have been so well and uninterruptedly carried on, and none that have been more distinguished for the value and importance of the communications made to it, as well as for the harmony and good temper with which all its proceedings have been marked. There have been, and still are, persons who doubt the utility of societies formed for scientific purposes, and maintain, that the united efforts of men of letters have produced little in academies. The names and works of great philosophers who have laboured in private, sometimes almost in secret, until their researches and theories have reached maturity, and come forth in all their strength upon an astonished world, have been paraded as proofs that there is no necessity for such combinations in order to produce great results; and it has been said that no man likes to bestow his great labours on a small community, for whose members he himself does not feel probably the most flattering partiality. Voltaire confesses that the great characters of the literary republic were formed without the aid of academies; and the opponents to such societies may urge, and find Bruyère on their side, that no academy generates a single man of genius. No Milton, no Hume, no Adam Smith, will spring out of an academical community, however they may partake of one common labour. But such arguments prove nothing in the case. The world acknowledges the preeminence of the characters alluded to, and every one admits that under any circumstances such transcendent genius must have burst forth to illuminate mankind. The real question is, are such societies useful to science in general, and to the individual members of which they are composed? That they are so, I think, we have *prima facie* evidence, in the fact of their universal adoption in every civilized country on the face of the globe; and the

evidence is strengthened, when we inquire into the origin of some of those, whose fame is most widely spread, and most firmly established. If we look to the French Academy, and the Royal Society of London, we find these great and influential institutions were not created by the ministers or the sovereigns of the countries in which they flourish, neither were they endowed with charters, or patronized by the great in their infancy; but we discover that they originated with those best qualified to judge of the advantages of such associations, and best fitted to profit by them. An academy or association can only succeed by the efforts of the individuals themselves. It will not be by the favour of the many, but by the energy of the few. It is not even in the power of royalty to create at a word what can only be formed by the cooperation of the workmen themselves, and of the great taskmaster Time. It was from a private meeting that the great French Academy derived its origin. Several literary friends at Paris, finding the extent of the city occasioned much loss of time in their visits, agreed to meet on a fixed day every week, and choose Conrart's residence as central. All being literary men, those who were authors submitted their new works to this friendly society, who, without jealousy or malice, communicated their strictures; the works were improved, the authors were delighted, and the critics were honest. Such was the happy life of the members of this private society, during three or four years. Pelisson, the earliest historian of the French Academy, has delightfully described it. "It was such," he says, "that now, when they speak of these first days of the Academy, they call it the golden age, during which, with all the innocence and freedom of that fortunate period, without pomp and noise, and without any other laws than those of friendship, they enjoyed together all which a society of minds and a rational life can yield of whatever softens and charms." In this simple description of that happy association, we have the best answer to the objections sometimes expressed against literary or scientific societies. The greatest men of the age found it their interest, and made it their pleasure, to hold periodical meetings, to discuss the objects of their mutual pursuits. It is curious to trace the progress of this private and unobtrusive society, and to see how distinction and honours were actually forced upon them, sorely against the wishes of its members. They were happy, and they resolved to be silent, nor was this bond and compact of friendship violated, till one of them, Malleville, secretary of Marshal Bassompierre, being anxious that his friend Faret, who had just printed his *L'Honnête Homme*, should profit by all their opinions, procured his admission to one of their conferences. Faret presented them with his book, heard a great deal concerning the nature of his work, was charmed by their literary communications, and returned home ready to burst with the secret. Faret happened to be one of those light-hearted men who are communicative in the degree in which they are grateful, and he whispered the secret to Des Marets and to Boisrobert. The first, as soon as he had heard of such a literary senate, used every effort to appear before them, and read the first volume of his *Ariane*. Boisrobert, a man of distinction and a

common friend to them all, could not be refused admission. He admired the frankness of their mutual criticisms. The society, besides, was a new object; and his daily business was to furnish an amusing story to his patron Richelieu. The Cardinal-minister was very literary, and apt to be sohipped in his hours of retirement that his physician declared that "all his drugs were of no avail unless his patient mixed with them a drachm of Boisrobert." In one of those fortunate moments, when the Cardinal was "in the vein," Boisrobert painted, with the warmest hues, this region of literary felicity, of a small happy society formed of critics and authors. The minister, who was ever considering things in that particular aspect which might tend to his own glory, instantly asked Boisrobert, whether this private meeting would not like to be constituted a public body, and establish itself by letters patent; offering them his protection. The flatterer of the minister was overjoyed, and executed the important mission; but not one of the members shared in the rapture; while some regretted an honour that would only disturb the sweetness and familiarity of their intercourse. Malliville, whose master was a prisoner in the Bastile, and Serisay, the *intendant* of the Duc de Rochefoucault, who was in disgrace at court, loudly protested, in the style of an opposition party, against the protection of the minister; but Chapelain, who was known to have no party interests, argued so clearly, that he left them to infer, that Richelieu's *offer* was a *command*; that the Cardinal was a minister who willed not things by halves; and was one of those very great men, who avenge any contempt shewn to them, even on such little men as themselves. In a word, the dogs bowed their necks to the golden collar. Such was the origin of that Society, whose fame has since extended to every region of the globe.

It was in the lodgings of Dr. Wilkins, in Wadham College, Oxford, that a small philosophical club met together, which proved to be, as Aubrey expresses it, the *incunabula* of the Royal Society of London. When the members repaired to London they renewed their meetings, first at a tavern, then at a private house, and finally in Gresham College. The Society afterwards derived its title from a sort of accident. The warm loyalty of Evelyn in the first hopeful days of the restoration, in his dedicatory epistle of Naude's Treatise on Libraries, called that philosophical meeting "The Royal Society." These learned men immediately voted their thanks to Evelyn for the happy designation, which was so grateful to Charles the Second, who was himself a virtuoso of the day, that the charter was soon granted. The King, declaring himself their founder, sent them a mace of silver gilt, of the same fashion and bigness as those carried before His Majesty, to be borne before the President on meeting days. If we examine into the history of all other literary and scientific societies we will find them originating in a somewhat similar manner. But why do I allude to these circumstances, and occupy your time in listening to the details of other societies? It is with the object of shewing the spontaneous origin and growth of such institutions, the want of which became insensibly manifest to the

learned, who supplied that want by their own private and friendly associations. Is it likely that the Bacons, Cowleys, Miltons, and other imperishable spirits of those days, would have adopted such a method for the interchange and communication of thought, if they did not derive signal benefit in doing so?

There are many advantages to be derived from the labours of societies who limit their operations to particular subjects. Of this we have a striking proof in the Geological Society of London, which has done more to rescue geology from the vague and unfounded hypotheses, of which it was composed, and to establish a rational and purely inductive method of investigating and generalizing facts, than ever was accomplished before, or, most probably, would have been effected for years to come, without its aid. I do not think I arrogate too much for this Society, when I claim for it the merit of having fostered, if not created, a spirit of careful investigation, and free communication on subjects connected with the practice of midwifery; and thus contributed to elevate and disseminate the fame which Dublin has long enjoyed in this branch of medicine. I can appeal to the communications made to this Society, and since published by their authors, as the best evidence of what I have advanced; many of which will not suffer by comparison with the best essays emanating from other societies. Now I do not mean to assert that all these papers would not have reached the professional public without the inducement, or help of this Society, but I think it extremely probable, that many of them would never have seen the light, were it not for the inducement held out to authors by our meetings, and for the spirit of research to which they cannot fail to give origin. A number of minds directed thus upon one particular branch of medicine must necessarily advance the science, either by making new discoveries, or, what is often as valuable, in a practical point of view, by removing long established errors, or upsetting baseless and pernicious theories. The admission of discussion upon the subjects brought before us, tends in an especial manner to promote the great object at which we should aim, the discovery of truth. The advantage of having the opinions of our brethren at once declared, may be the means of correcting mistakes, into which we are all liable to fall; and from hints dropped in the course of debate an author is often enabled to alter or amend his communication, before he submits it in print to the stern judgment of the public. To the junior members of the Society I conceive the debate which follows a paper is of very great importance; it affords them an opportunity of becoming acquainted with the mode of thinking on important subjects which has grown up in the minds of their seniors; and may afford a standard whereby they may measure the amount of their own knowledge on a variety of subjects. These remarks are, I think, peculiarly applicable to this Society, where the discussion is conducted on those principles that should ever actuate a society of gentlemen engaged in the same pursuit; where truth, not victory, is the common object; and where, with all the candour and freedom with which opinions may be stated, I have always observed that decorum of manner and ex-

pression, which softens down objections, and accommodates, if it cannot reconcile, conflicting opinions. Constituted as the human mind is, there are but few, if any points upon which we can find uniformity of opinion, and in a subject so varying as medicine we never can expect to find a perfect uniformity. We, therefore, make all due allowance for this diversity of thought, and in our discussions we take advantage of, and treasure up what we hear, rather than take offence at what may not exactly coincide with our own opinions. I have had experience of many societies during my life, and I never knew one in which the subjects were debated with more temper and good feeling, than those which actuate the members of this Society ; and I trust the day is far distant when I could with truth maintain the reverse.

Another advantage arising out of this and similar societies is, that they afford an opportunity for the formation of personal acquaintanceship, and often of lasting friendship, between persons engaged in the same branch of the Profession. This I consider a most useful and important result, flowing from our periodical assembly in these walls. There is nothing tends to mitigate the natural feeling of profession-rivalry, more than the friendly intercourse which takes place on these occasions. There is nothing contributes more to the establishment of that infallible sign of a healthy state of professional morals, friendship between rivals. You may rest assured, that, when you see the contrary, there is something wrong, some want of upright and honourable feeling, some deviation from the straight path of honour and honesty. It is our happiness to enjoy in this city, I believe, a greater amount of professional harmony than is to be found in any other capital. It has been often remarked to me by strangers, and I have no doubt one great reason of it is, that there are so many opportunities for the members to come together and learn to value each other's friendship.

If in this Society, our meetings were confined to those only who have already embarked in the practice of midwifery, the observations I am about to make might be considered unnecessary and misplaced ; but it has been wisely judged right to admit, as members, the students who are, in after years, to supply our places, when we have played our parts and retired from the scene. I trust I may be excused in addressing a few words to them on the nature of the profession which they are about to adopt, and the qualities which I believe to be essential for success. This is not the time or place to enter on any defence or eulogium of midwifery ; your presence here this evening testifies your conviction of its importance as a science ; neither does it come within my province, on the present occasion, to offer any suggestions with reference to the best method of pursuing its study. These are topics better suited to the lecture room, and I have not failed to insist upon them in the discharge of my duty elsewhere. I may, however, remind you, that whatsoever may be the amount of scientific and practical knowledge which, by diligence, you may acquire, a great deal more is necessary to form the character of

a successful and accomplished accoucheur. It should be always borne in mind, that the especial objects of our care are the most interesting of the works of the Creator of all things—woman, sensitive and delicate woman, in her hour of peril, under the primeval curse, and her tender, helpless offspring, in whom her hopes and affections are concentrated. It is impossible to conceive any situation in which a greater demand is made upon the sympathy and anxious care of all surrounding, but especially on him to whose hands are confided the issue of the painful struggle. He should never lose sight of the deep responsibility he has undertaken, nor forget for a moment, that the lives of two individuals are depending upon the skilful discharge of his duty. He should remember, that although the majority of cases of parturition terminate favourably, without any demand for the exercise of extraordinary means, yet at times circumstances arise, calling for the most prompt and decisive treatment, without which the life of one or both of his charges must be sacrificed; for there is no branch of medicine in which the death or safety of a patient is so completely in the hands of the attendant, as it is in some of the emergencies of midwifery.

Without going more into detail on this point, let me call your attention to what more is required from the practitioner in this branch of medicine. Passing by the intricate diseases of infants and children, which fall especially within his province, let us pause for a moment on that wide and difficult class of derangements of the female health, commencing at puberty. This is a season which properly calls forth the anxious solicitude of every mother, and it too often happens that neglect or mismanagement at this period, lays the foundation of long enduring, or permanent infirmity. Here it is that a judicious exercise of professional skill is required, and an acute, yet delicate tact, is essential, to discriminate between the diseases that may exist, and to administer the remedies appropriate to each; for in no class of diseases is more mischief caused by following a routine practice, than in that to which I have just alluded.

In a more advanced stage of female life the practitioner of our art has to encounter a most formidable class of diseases, the organic affections of the womb. These are frequently rendered formidable by concealment in their early stages, arising out of the natural delicacy of the female character, and the repugnance they feel to disclose their sufferings. But in this case, much may depend upon the previous character and conduct of the medical attendant. If by his skill and kindness on former occasions, he has gained the respect and confidence of his patient or her friends, she will communicate to him at a much earlier period than she would under other circumstances, and thus a disease may be discovered and checked in its commencement, which, if allowed to proceed, would assume a most dangerous form. Several years ago an instance highly illustrative of this point occurred to me. A lady, whom I was in the habit of attending, had gone to reside in England, and while there, became affected with a complaint for which she wished to have my advice, and she returned to Dublin to consult me. That complaint was speedily removed, and just pre-

vious to her proposed departure she said: "as I am here, I may as well ask you about a little matter that may be of no consequence, and indeed has given me so little trouble, that I would not think of mentioning it to any one else. I have for a week or two felt a small lump in my breast, and I wish you would look at it." I did so, and discovered a cancerous tumour of a most malignant character, not larger than a hazel nut. I immediately sounded the alarm, a consultation was held the next day with Dr. Johnson and the late Mr. Colles, who agreed fully with me, and the day after we amputated the breast. A section of the tumour confirmed the truth of our opinion, and the lady is alive and well at the present moment. This providential escape was owing to the other and totally distinct malady which led her to come over to me, for she certainly would not have thought it necessary to consult a stranger until the time for operation would have passed by. I adduce this as an instance of the value of that personal confidence so essential in the treatment of female diseases.

There is still another highly important, and often most difficult subject, upon which the accoucheur is required to be well informed, as questions of the highest moment arising out of it are frequently proposed to him, and upon his decision consequences of the most grave nature may depend. I allude to the subject of pregnancy; one requiring a combination of learning, experience, and tact, in a higher degree than almost any other subject in medicine.

Such are some of the duties required from the practitioner in midwifery; let me call your attention to the qualifications essential to their due fulfilment. Anatomy and physiology, the grand foundation on which all medical knowledge is based, must be well and thoroughly understood; and the principles and practice of medicine and surgery, in their most comprehensive forms, must be familiarly and deeply engraven on the mind; without such a foundation it is impossible to build up the superstructure of scientific and practical midwifery; and so strongly do I feel upon this point, that if I had the power to regulate the course of study to be pursued by students in midwifery, I would make it imperative that a degree in medicine or surgery, or, what is better, in both, should be obtained, before the study of midwifery, as a distinct branch, was commenced. In many points of view such an arrangement would be beneficial, but particularly in this, that the mind would be better fitted to comprehend and appreciate the phenomena and treatment of the different departments of this particular branch. Midwifery and its natural adjuncts, the diseases of females and children, involve, in fact, some of the most intricate points in anatomy and physiology, as well as some of the most difficult questions in pathology, medicine, and surgery, and he who by diligent application has become acquainted with these sciences will be in the best position to master the difficulties that beset the path of the student in midwifery.

A liberal and comprehensive medical education is, therefore, the first essential qualification for midwifery practice, and without it, it is impossible for any man to rise to eminence. In small localities and

in the country, the practitioner is compelled to engraft midwifery on general practice; but in large cities, where circumstances permit the separation, it is found to be most advantageous to pursue midwifery as a distinct branch. This devotion to one particular department, has given rise to the vulgar notion, that the education of the medical practitioner (or lady's doctor, as he is popularly called) is different from that of other physicians and surgeons; an idea originating in ignorance of the fact, that midwifery is only one branch of the great medical tree, and that he who would reach it, must climb up by embracing, and firmly grasping the stem, and toiling over its several knots and asperities. There is no different route, no short cut; the way must be travelled over step by step, and stage by stage. Having gone through the preliminary education, and having, as I think he ought, obtained his degree, the graduate is now able to devote his whole time and energy to the study of midwifery; and I know from the testimony of individuals, that six months' study under such circumstances is more valuable than double that time at a previous period.

Let us now suppose his term of study complete, his time to have been diligently spent, and his hand and head trained in the science and practice of midwifery; is there any other qualification necessary to enable the student to become a practitioner, and to secure a share of public confidence? There are many. In the first place, he must have a good moral character—morality founded on, or growing out of religious principles, before all other; but if, unhappily, such a regulator should not abide with him, then morality conformable to the strictest rules of society. In all branches of the medical profession, a failure in this particular is most detrimental; but in that to which we belong, a pure and unspotted character is the ingredient most essential to success. It matters not what amount of ability and learning may be brought to the task, if they be not accompanied with strict moral rectitude, the door of public favour will be closed against them. Another very important ingredient is a good temper, or a steady control over a bad one. The young graduate about to embark in professional life, should be aware that the private practice of midwifery, and the public practice of the same in hospital, are two very different things. In the latter, the patient is under the rules and control of the institution, and from her position in society, she is accustomed to obey her superiors, so that little trouble is necessary in her management. But when he comes to deal with his equals, and superiors in rank, he will at times encounter characters requiring the greatest skill and steadiness of temper to control and direct them; and he will find it necessary to exercise this quality as much in reference to the assisting friends, as to the patient herself. To avoid giving or taking offence, at the same time that he insists on his orders being complied with, or refuses what he knows would be prejudicial, should be his aim; and by adopting "*suaviter in modo, fortiter in re*" for his motto, he will often succeed where a different line of conduct would involve him in difficulty. In addition to the quality just spoken of, the obstetric practitioner requires a very considerable

share of moral courage. To any one who has attended a long and difficult first labour in a young creature, the idol of her husband and family, it is unnecessary to recal the anxious looks, the importunate questions, the expressions of surprise, amounting to disappointment and even displeasure, at the delay, and the ill-suppressed fears he has had to encounter during the protracted and weary hours preceding its joyful termination. But to those about to undertake this duty I would strongly urge the necessity of coming furnished with a large store of moral courage, by means of which they will be enabled to pursue steadily the course pointed out by reason and learning, unmoved by the importunities of anxious friends, or the exhibition of impatience with which they may be assailed. A perfect confidence in himself, an honest announcement in the beginning, of the prospect of considerable delay; a cheerful manner, without levity, and a firm determination to do what he considers right, will inspire his patient and her friends with a reliance upon his skill, and will enable the attendant to perform his arduous duty with comparative ease and satisfaction.

There is another quality of the greatest importance to persons practising our branch of the profession—that is secrecy. All physicians are called on for the exercise of this virtue, but upon us the call is most imperative. I do not now allude to the divulging of circumstances concerning the character or conduct of individuals, which in the exercise of our profession may become known to us, and which, of course, every man of honour feels bound to preserve within his bosom; but I mean to caution you against a habit of speaking of your patients in other houses, and communicating any circumstances, however trifling, respecting them. This pernicious habit of gossiping is sure to produce bad results; your words and expressions, however innocent, are liable to misconstruction, and are often sent abroad, with the usual proverbial additions, to find their way at last into the house of the object of them, so distorted as to appear like malicious calumnies. In the long weary hours you will have to spend in the houses of your patients, you will be much exposed to fall into this temptation, which I strongly advise you to resist. To conclude my catalogue of qualifications let me add, physical strength and a sound constitution. Our's is, of all branches of the medical profession, in every sense of the word, the most laborious. Broken rest, exposure to the weather by night as well as by day, irregularity of meal times, fatigue of body and mental exhaustion, these are the tests that try the vital powers; and unless the living spring be endowed with a liberal share of elasticity, it will yield to the superimposed weight, unequal to support. To preserve both body and mind in a condition to resist such injurious influences, the greatest attention is often necessary. There are some adamantine constitutions that can bear with impunity these trials; but as a general rule I would observe, that it is only by a steady adherence to temperate habits that you can expect to preserve that vigour of body and coolness of judgment that are indispensable to a practitioner in midwifery.

Having in this hurried and very imperfect manner detailed a few

of the important requisites with which I consider you should be furnished in order to obtain a respectable footing in professional life, allow me to advise you to pause on the threshold, and consider each for himself whether he is fitted for the situation in which he is about to be placed. It is lamentable to witness the waste of talents and time which we so often see thrown away in the study of professions for which there is no aptitude or natural bias : many a bright genius is lost by being forced into a position unsuitable to its nature. We are all interested in the metaphysical discussion whether there really exists an inherent quality in the human intellect which imparts to the individual an aptitude for one pursuit more than for another. What Lord Shaftesbury calls not innate but connatural qualities of the human character were, during the latter part of the last century, entirely rejected, but of late there appears a tendency to return to the notion, which is consecrated by antiquity. One great fault is, that our children pass through the same public education, while they are receiving little or none for their individual dispositions, should they have sufficient strength of character to indicate any. The great secret of education is to develop the faculties of the individual, for it may happen that his real talent may lie hidden and buried under his education. A profession is usually adventitious, made by chance views, or by family arrangements. The difficulty of discerning the aptitude of a youth for any particular destination in life is, even for the most skilful parent, always hazardous, and many will be inclined, in despair of anything better, to throw dice with fortune. Should a choice be submitted to the youth himself, he will often mistake slight and transient tastes for permanent dispositions.

A decided character, however, we may often observe is repugnant to a particular pursuit, delighting in another ; talents languid and vacillating in one profession, we might find vigorous and settled in another : an indifferent lawyer might become an admirable architect. At present, all our human bullion is sent to be melted down in an University, to come out as if thrown into a burning mould, a bright physician, a bright lawyer, a bright divine ; in other words, to adapt themselves for a profession preconcerted by their parents. By this means, we may secure a titular profession for our son, but the true genius of the avocation, in the bent of the mind, is too often absent. Instead of finding fit offices for fit men, we are perpetually discovering on the stage of life actors out of character. A popular writer has happily described this error : “ A laughing philosopher, the Democritus of our day, once compared human life to a table pierced with a number of holes, each of which has a pin made exactly to fit it, but which pins, being stuck in hastily, and without selection, chance leads inevitably to the most awkward mistakes. For how often do we see the round man stuck into the three-cornered hole.” That much may be done by art and education, in overcoming natural obstacles to professional success, no one can deny ; but that there are strong tendencies or predispositions in individuals to particular pursuits, which it is well to lay hold of and cultivate, is a proposition in which I think most persons will agree. A story recorded of Cecco d’Ascoli, and of Dante, on the subject of

natural and acquired genius, may illustrate the present topic. Cecco maintained that nature was more potent than art, while Dante assented the contrary. To prove his principle, the great Italian bard referred to his cat, which, by repeated practice, he had taught to hold a candle in its paw, while he supped or read. Cecco desired to witness the experiment, and came not unprepared for his purpose. When Dante's cat was performing its part, Cecco lifting up the lid of a pot which he had filled with mice, the creature of art instantly shewed the weakness of a talent merely acquired, and, dropping the candle, flew on the mice with all its instinctive propensity. Dante was himself disconcerted; and it was adjudged that the advocate for the occult principle of native faculties had gained his cause.

Of all professions, there is not one that more imperiously demands a certain amount of predisposition than the medical profession. And of all branches of that profession, the one on which we are now engaged, requires the strongest bias, combined with the qualities which I have just recently sketched for its cultivation and practice. I have dwelt thus long upon this topic, in order to strengthen the caution with which I set out, and to induce those now about to embark in the practice of midwifery, to weigh well and consider their own characters and fitness for its pursuit.

I cannot more appropriately conclude this address than by quoting the words of one of the greatest ornaments of our profession, which, although written half a century ago, are still most apposite to our own times.

"Every one," says Dr. Burns, "must be sensible of the time which it requires to procure practice, and the difficulties which a young man has to surmount. He may live long ere he be known even by name; his rise must be very gradual; and one slow step after another must lead him forward. Whoever aspires at eminence and respectability, must by unremitting application, and diligent study, purchase that honour which he is solicitous to obtain. I know that it is an opinion with many that success in the medical world depends more upon interest than abilities. But I shall venture to affirm that he who trusts to this maxim, and neglects the means of improvement, shall find himself most miserably mistaken.

"No man will trust his own life, or the safety of those whom he holds dear, to any man, however powerful his recommendations may be, if he once detects him to be a blockhead. In the trifling and insignificant ailments, to which every one is subject, his ignorance may not be perceived, and years may glide on without any great impeachment of his character; but sooner or later, difficult and important cases must occur; his treatment of these will not pass without observation; and his real character must be made known. If possessed of many friends, he may for a time procure concealment or palliation of his faults; but blunders, frequently repeated, must at last become notorious. If a man of fortune, he may, indeed, still hold up his head, and assume the language of defiance or unconcern; but if his own subsistence or that of a family depend upon his employment, what must the consequence be? The opportunity of preventing this un-

happy event, still presents itself to every student, to whom the precious years of improvement remain yet unconsumed. Let him then rouse himself, and by diligence, steadiness, and a thorough knowledge of his profession, prove that he is not inferior to those with whom he is to compete. His success depends upon his own inclination. If he desire honour, respect, and independence, he has only to form the resolution and he shall obtain his wish. But it is very far from my intention to represent the task as an easy one. He who trifles away his time, and who does not consider every hour as misspent which he does not employ in study ; he who can stoop to examine a thing by halves, and who tries every expedient to satisfy his own mind, when he has only acquired a partial knowledge of his subject, never can and never will succeed. It is true, that the generality of mankind are very incompetent judges of medical abilities, and therefore may, from accidental circumstances, raise a fool to some degree of honour ; but, notwithstanding this elevation, the fool still remains known only in the little sphere in which he moves, whilst the name of the learned spreads to distant lands. Even this success of the ignorant man must be only temporary. Some one better qualified than himself may come, and pluck off his false laurels ; some unfortunate case, or some dishonest trick, sooner or later, must unmask his character, and pitch him down to his proper station. But I shall say no more on the injury which the student, by his negligence, shall sustain in his character. I shall insist on a more important point, the life and safety of his patient when he comes to practice. Need I remind him of those dangerous accidents which attend pregnancy and labour ? Need I do more than mention those dreadful hæmorrhages, which, from their impetuosity, are justly called floodings. Some of these may be stopped by easy means ; but others require bolder operations, or increase in proportion as they continue, ending only with the life of the patient. Can any man laying the most distant claim to humanity or honour, be easy when he is ignorant of these points ? Can any one not well acquainted with his profession pretend to pass his hand and arm into the uterus, and procure artificial delivery ? Will he presume to say, upon his own judgment, when it is necessary and safe, and when it is not ? Should he stop to deliberate, if the reasoning of such a man can be called deliberation, may not the woman die before his eyes, and without assistance ? Can he, without uneasiness, attend the more lingering illness produced by the fruitless efforts of the uterus to pass the child through an ill-formed pelvis ? Will he dare, in any one instance, to determine, upon his own authority, when the crotchet should be employed ? Must the child be wantonly sacrificed, because he, in his ignorance, believes it to be requisite ? or must the woman perish, because he foolishly hopes that assistance is still unnecessary ? Must both parent and child become victims to his awkwardness ? It is a very poor excuse for these crimes, to say, that he had no malice in his heart. The laws of his country may indeed acquit him ; but his own conscience must tell him that he is a murderer. It is only a small alleviation of his guilt, to say he did the best he could. It was unwarrantable and criminal to undertake the practice of a profession for

which he was not qualified. It will surely be unnecessary for me to point out the reverse of this character, or to mention the happiness which the well-educated man derives from his knowledge. By the operation of a single moment, he restores life to the dying. In the midst of every danger he is courageous, because he knows his own powers and resources. His life is spent with honour to himself, and advantage to others; and his departure is beheld with sincere grief by those who had the happiness of being connected with him."

Curious Case of Fistula in Ano occurring in an Individual affected with Paralysis of twenty-five Years' standing, by Benjamin Darley, Esq., L. R. C. S. I.—Mr. ——— consulted me in the year 1838, for an uneasiness he felt about the anus, accompanied with some discharge. He supposed he had piles, to which he referred those symptoms. On examination, I found many fistulous openings around the anus, and one which gave him the most distress, was situated close to the point of the os coccyx; the pus discharged from these sinuses was most foetid; through some of them, a probe might be passed for a considerable distance, and most probably they opened internally into the rectum; but as an operation was not thought advisable, on account of his previous state of health, this fact was not determined.

The gentleman, the subject of this case, had been for twenty years labouring under paralysis, chiefly engaging the limbs, of that kind called *creeping paralysis*, and which has its origin in the nervous extremities. It engaged the functions both of sensation and motion. Whilst walking, he directs his feet chiefly by his sight; he can use his hands to shave and help himself at his meals, but can write little more than his name, and though he walks, his gait is most unsteady, and he is in constant danger of falling if left to himself; all his motions are slow and tedious, and he uses his arms and legs in that quick, sudden, and nervous manner so characteristic in persons labouring under this affection. The functions of the brain, in this case, are perfect, and he is a man of much intelligence and activity of mind; his digestive system and general health are good, and there is no disease of the liver; he suffers occasionally from severe neuralgic pains, in various parts of his body and limbs; the bowels are in a very torpid state, acting only every second day, and that after taking medicine; the bladder partakes of the general paralysis, and requires the action of the abdominal muscles for its evacuation, which gave rise to the idea of his having had strictures of the urethra; nothing of the kind, however, existed.

Twenty years ago, the first symptom this gentleman complained of, was inability to feel the stirrups with his feet whilst riding; from that period it went on, gradually increasing to the present time, unchecked by any of the various means of treatment which he underwent.

I occasionally attended him, until the middle of August, 1843, when he told me he had a spot on his right hip that was

rubbed. On examination I found over the great trochanter, a portion of skin, about the size of a shilling, destroyed, forming a black eschar, as if caustic potash had been applied. On the opposite hip there was a smaller spot, more like an excoriation. As this could not heal until the slough separated, poultices and soft applications were ordered; the slough took more than a fortnight to separate, leaving a deep cavity, with the periosteum exposed. The left hip now suffered in consequence of the pressure to which it was subject whilst trying to save the right; it was swelled and hard about the trochanter, as if deep-seated inflammation was going on. He went on thus till the 31st of August, when I was sent for, late at night, and found him complaining of much prostration, attended with nausea and vomiting. He ascribed this attack to a drink of porter which he took on an empty stomach. Those symptoms were relieved by a mustard poultice applied to the epigastrium.

September 1. Passed a restless night, nausea and sickness returned, pulse 100, tongue white and furred, bowels very loose, discharges most foetid, spots like large *petechiæ* have made their appearance on different parts of the body, and a finger on each hand has been attacked with superficial mortification, occupying two joints of each. In consultation with Mr. Cusack the mustard application was repeated, draughts, with two drops of prussic acid, were given occasionally, and an anodyne enema.

September 2. Passed a restless night, the bowels quieter, nausea relieved, *petechiæ* very large. On each wrist there is a large, purplish, livid spot, as if blood was effused underneath the cuticle. We shall not go through the daily reports, but merely state that from day to day he had attacks in his bowels, which by degrees ceased, and he was able to take some nourishment till the 18th, when it was discovered that a large slough had formed on the lower part of the back, engaging the upper part of the sacrum—it is deep, and beginning to separate at the edges, in fact, every part gave way that suffered the least pressure. There is also a large abscess making its appearance in the left nates, over the sciatic notch, which broke in a few days, and gave exit to an immense quantity of most foetid pus; and after discharging for a few days it closed up. I could pass a probe (which, we may remark, was blackened by the pus) its whole length into this abscess, and not find the extent of it. The direction the probe took was into the pelvis, towards the rectum. The most remarkable symptom in connexion with this abscess was the passage of air through the opening, particularly when the bowels were acted on. It was this abscess which led me to consider the whole of the present attack as the consequence of the disease of fistula, or, more properly speaking, abscess around the rectum. From the previous wasting of the nates it was impossible such a quantity of matter could have its origin on the outside of the pelvis: taking into consideration the depth of the abscess, the air passing out through it, the foetor of the pus, and its power of changing the colour of a silver probe, I concluded that the source of the matter was the neighbourhood of the

rectum, and that it had made its way out through the sciatic notch to the place where it burst.

After the discharge from this abscess had ceased, our patient appeared to improve; the petechiæ over the surface of the body began to fade, and ultimately retired; the superficial sloughs on the fingers separated, leaving ulcers which gradually healed; the slough on the back also separated, an immense ulcer remaining, which began to heal at the edges.

On the 1st of October, he was in the following state: he always lies on his back, from which position he cannot stir without assistance; sleeps tolerably well; pulse 90; appetite good; tongue white and furred; bowels very irregular, one day confined and the next day too free; urine loaded with a thick ropy mucus, always passing involuntary; both fingers have healed; the sores over the trochanters are still open; the ulcer on the back very large; part of the sacrum is bare. He lived for two months longer, very much in the same state; at the beginning of December he got a cough, with some expectoration, and in consultation with Dr. Law it was found that pneumonia of the left lung was present, and effusion into the left pleura took place. Under this accumulation he rapidly sunk, and died on the 10th of December.

Now here is a man who had been labouring under paralysis, commencing at the nervous extremities, for twenty-five years, and if our reasonings be right he died of the effects of fistula in ano. So long as the matter had free exit by the opening around the anus all went on well, but when these had closed up, which was effected by the constant use of Goulard's and other lotions, which the patient had recourse to in order to get rid of such a troublesome disease, the matter thus pent up accumulated in the pelvis, and gave rise to the diarrhœa and fœtid discharges. Some of this matter being, no doubt, absorbed and taken into the general circulation, caused those symptoms at first so difficult of explanation, viz., the gangrenous appearances on different parts of the body—the extensive petechiæ and livid spots, attended with such prostration and giving way of every part of the surface which suffered the least pressure. It is also a striking fact, that all these symptoms gave way as soon as a free discharge of the matter took place by the abscess on the nates. Disease of the lung, and effusion into the pleura, are also a frequent termination of those cases, which, like the present, are attended with purulent depositions.

I have under my care at present another case of paralysis, which, like the former, had its origin at the nervous extremities. A gentleman aged sixty-five, who had lived rather freely, had good health till about eight years ago, at which period the first symptom manifested was a partial inability to use the right hand; and, what is most remarkable, as shewing the insidious nature of the disease, this affection had existed for some time before even his family were aware of it. They remarked that he was very awkward in carving, but no notice was taken of it until a friend who was dining with him observed that he scarcely ate any dinner, and thought it arose from his not being able

to cut it with the knife in his right hand. On being questioned, he allowed that for some time previously he had not had the complete use of his right hand, but was unwilling to complain, as he did not think it of any consequence. From this time, however, it gradually progressed—very slowly at first, as he was able, for some time after, to walk eight and ten miles in the day. His medical attendant did not look upon the case as paralysis. It was not till the year 1841, when I first saw him, that it made such rapid progress, since which period he has lost, by degrees, the entire power over both upper and lower extremities. The hands are tightly clenched, and can with difficulty be opened; the flexor muscles are generally affected with a tonic spasm, and on feeling his arms a tremulous subsultus of the muscles is present. When he is moved, which has to be done entirely by the assistance of others, a kind of involuntary contraction of the muscles over the whole body takes place. At present he can eat, drink, sleep, and perform most of the animal functions perfectly, but he is more helpless than an infant; can stir neither hand nor foot. There is, however, this great difference between the two cases: in the first, the senses remained perfect to the last; in the latter the power of speech is lost, and he can only merely make a kind of a noise not unlike the exclamation we are in the habit of hearing the deaf and dumb make. He scarcely takes notice of any person, even of his own family, nor does he understand well what is said to him; in fact he is little removed from idiocy.

It is interesting to observe how these cases begin and progress; the first thing, in general, complained of is inability to feel things with, or to use, the hands and feet, as in the first case mentioned above, attention was aroused by the individual not being able to feel the stirrups whilst riding; it may begin with either loss of motion or sensation, but ultimately it involves both; the process is always slow, but in the end they either lose the entire use of the limbs, or the control over their motions. Thus, in one case above, the patient retained the power of motion, but when he raised his limbs, he could not tell, if we may use the expression, where they might go to, so that he directed them more by his sight than his will. In a case I am acquainted with, the power of writing with the right hand is lost; the moment the gentleman places the pen on the paper, the hand is jerked away; he cannot control the motion of the hand during the effort, so that he has had to learn to write with the left hand.

The manner persons affected with this disease walk, is very similar to a person under the influence of intoxication; or not unlike the way an individual moves, who has a false leg: they can walk, but most unsteadily, and in frequent danger of falling, if assistance be not at hand; and they move with that quick, sudden step, as if their limbs were on wires. I know a gentleman, thus affected, who was actually stopped and arrested in the street, under the supposition of his being inebriated.

These cases are generally of a very chronic character; the first I have detailed existed for twenty-five years. Another case I remember seeing some years ago, was a gentleman about fifty years of age,

who had the disease for many years. When I was called to see him, he was labouring under convulsions which assumed the character of epilepsy, under which he sunk in about three weeks. The cases of this disease I have met with, have all occurred in males.

It is important to discriminate between this creeping paralysis, commencing at the nervous extremities, and other species of the same disease. It is a disease little taken notice of by authors ; and in looking over the writings of those who have written on paralysis, I have not found any accurate description of this affection, though it is well known to the Profession at the present day.

Dr. Graves has called attention to a paralysis caused by the reflex action of the nerves, or, in other words, that an irritation applied to the nervous extremities may cause paralysis in a neighbouring, or even in a distant part, in consequence of this irritation being reflected back along the nerves to the nervous centres, which, thus becoming affected, causes paralysis of parts whose nerves are in connexion ;—this, together with the numerous diseases which may be set up by irritation transferred from one part of the body to other distant parts, through the agency of the nerves, is a most important subject, and cases of which the practitioner is in the daily habit of meeting with, and require the closest investigation to detect, and activity to treat. But I refer to this subject, chiefly to shew the distinction there exists between the two species of paralysis ; that described by Dr. Graves is generally caused by an injury inflicted on the sentient extremities of the nerves, whereas the paralysis we have been describing is not traceable to any injury whatever. Again, this always begins in an insidious manner in the nervous extremities, and proceeds from below and upwards. It is chronic and slow from the first, and does not begin with what is called a paralytic or apoplectic stroke ; whereas the other shews itself in an acute, sudden manner, and displays its character as paralysis at once. In a word, we must look for the origin of this affection to a lesion commencing in the nervous centres, whilst that described by Dr. Graves is caused by an irritation primarily applied to the nervous extremities ; and this distinction, in connexion with the pathology of the two affections, is very important in regard to their treatment.

I have regretted not being able to obtain a *post mortem* examination of the parts engaged in this disease, in the cases I have met with ; but what I should expect to find would be a softening and disorganization of the spinal marrow, and in some cases the lesion extending upwards and engorging the brain ; the boundaries of the extension of the lesion are well defined by considering the symptoms in the two cases brought forward in this paper. In the first we have found that the extremities were the parts affected, whilst the sensorium retained its integrity, shewing that the spinal marrow was the part engaged. In the other case the disease was at first confined to the extremities, but afterwards engaged the organs of sense, shewing the extension of the disease to the brain. The paralytic state of the bladder, and the immense quantity of ropy mucus passed with the urine in the first case, is important, when we consider the relation

that obtains between this state of the bladder and disease of the spinal canal. The digestive system, which is under the ganglionic system, remained perfect in those cases, whilst the bladder, which derives its nerves from the spinal marrow, participated much in the disease.

As to the treatment of this affection we shall at present merely observe, that if our opinion of its pathology be correct, it is obvious that the means best suited to arrest organic disease in the nervous centres is that from which we shall derive the most hopes of success ; and if our treatment is to exert any influence on this very intractable disease, it should be employed in a very early stage of the disease.

Dr. Mayne on the three Images of the Eye in Cataract, Amaurosis, &c.—A few years before his death, Sanson, the Clinical Professor of Surgery at La Pitié, made an interesting discovery, calculated to throw considerable light on the diagnosis of several diseases of the eye—viz., that on a lighted candle being placed in front of the healthy eye, three images of the flame were distinctly visible ; whereas, when opacity of the crystalline lens existed, in ever so slight a degree, the intensity of the reflection was diminished, or the number of the images reduced to two or one.

We were following Sanson's practice at the time that the phenomenon first attracted his attention, and well recollect the great sensation produced by his discovery. For some weeks, every one connected with the hospital was continually making experiments, in order to ascertain the existence of the three images in the healthy eye, and to discover, if possible, the cause of the modification of the images in the diseased organ. It was generally supposed, at that time, that the phenomenon would prove of considerable value in the diagnosis of different cases, and so it unquestionably did in the hands of Sanson. Since his death, other surgeons have resorted to the above means of diagnosis, but with very unequal success, so that of late, among the Parisian practitioners, it has been falling into disrepute. It is under these circumstances, that Dr. Mayne, a favourite pupil of Sanson, has contributed an interesting article on the subject, in a recent number of the *Gazette Medicale*, which we shall transcribe, as it is very concisely written. We are induced to give Dr. Mayne a little more room than we should have otherwise done, from the belief, that the attention of ophthalmologists has not been pointedly directed in our own country to this very interesting phenomenon. It is not even alluded to in Mr. Scott's able treatise on cataract, which we reviewed last year. Dr. Mayne writes as follows :

Professor Sanson first remarked, in 1836, that when a candle is placed before the eye of a person affected with amaurosis, the pupil being dilated, three images of the flame are perceived, placed one behind the other. The most anterior, and the most brilliant, is straight ; the second, or middle one, is paler, and inverted ; the third, or posterior one, is straight, as the first. Sanson communicated his discovery to his class in 1837, and subsequently explained the mechanism of the phenomenon, by means of an apparatus in glass, imitating

the human eye, with which he demonstrated the effects produced by cataracts. This, his two internes, MM. Bardinet and Pigné, effected on their side with the assistance of a few watch-glasses. Sanson and his pupils arrived at the same result. They found that the anterior straight image is produced by the cornea; the second, or middle inverted one, by the posterior segment of the crystalline capsule; and the posterior straight one by the anterior segment of the capsule. Opacity of the cornea destroys the three images; opacity of the anterior capsule destroys the two posterior ones; and opacity of the posterior capsule prevents the production of the inverted image. In other words, in posterior capsular cataract, the middle or inverted image is not seen; in cataract of the anterior capsule, the anterior straight one only is visible, which also is the case in capsulo-lenticular cataract.

Sanson concluded from his experiments, that cataract, even in its incipient stage, could be distinguished by this means from amaurosis and glaucoma. The extensive opportunities for studying diseases of the eye which he enjoyed, enabled him to test his discovery on many patients, which he did with great success. How is it, then, that this means of diagnosis should now be nearly abandoned? It must be, that the difficulties which it presents, in the hands of surgeons who are unaccustomed to resort to it, are such as to modify the results obtained, and, consequently, to dishearten them; and this I believe is really the case. Several clever practitioners have told me, that they have been led into error by having recourse to the lighted candle, but such a circumstance does not prove against Sanson's discovery; it merely shews that the experiment was erroneously carried into effect. There are several sources of error which must be guarded against.

The first indispensable precaution is to dilate the pupil previous to performing the experiment. (It was on an amaurotic patient that Sanson first observed the phenomenon). The field of the pupil is of very limited extent, and the impression produced on the eye by the presence of the candle, tends still further to diminish it, causing the iris to contract. Were not the pupil, therefore, artificially dilated, the three images would have to be sought for in a circle not presenting more than three millimeters in diameter. A person perfectly familiar with the appearance of the images, would have the greatest difficulty in recognizing them under such circumstances. Now, if we suppose the examination to be made by a surgeon who has never seen them, and has not dilated the pupil, it is easy to understand that he may only observe one, and conclude that his patient is affected with cataract. Time, however, may prove that such is not the case, and he then supposes that the mode of diagnosis which he resorted to is in fault, whereas the error was the result of proper precautions not having been taken. It is, therefore, necessary to increase, as far as possible, the field of the pupil, which may be doubled or trebled by the use of belladonna. In order to obtain immediate dilatation, a few drops of solution of atropia should be instilled into the eye. Its instillation is followed by pain, injection of the conjunctiva, and by a

discharge of tears, but the pain is bearable, and the injection and epiphora are of short duration. The eyelids should be kept closed, or the solution would be carried away by the tears. It is equally necessary that the examination of the eye should take place in complete darkness, otherwise the external light will produce reflections in the eye, which will sometimes simulate the images of the candle, and sometimes prevent their being recognized. The pupil being thus dilated, and the patient placed in a dark room, the light should be moved about before the eye. In addition to the above causes of error, there are others which may lead the observer to suppose that the images are deceptive, when such is not the case. The cataract may be so slight, as merely to consist in a scarcely perceptible cloudiness, through which the rays of light penetrate, although with difficulty. Or, the opacity may commence by the circumference, and only affect a limited portion of the surface of the crystalline capsule or lens, the remainder being perfectly sound.

The surgeon who has recognized the three images in these cases, and who has concluded from them that there is no cataract, is surprised to perceive, in the course of time, the opacity becoming manifest, and thinks the mode of diagnosis which he resorted to in fault. These cases are, it is true, very embarrassing; nevertheless, it is possible to recognize them. If the change consists in a slight cloudiness, the images perceived are not like those in the healthy or amaurotic eye; the anterior one alone is brilliant, and the others are extremely pale and dim. This circumstance alone should put the surgeon on his guard, and, combined with the other symptoms, may enable him to arrive at a correct diagnosis. When, on the other hand, the crystalline apparatus is only affected in a limited extent, if the opaque point does not present itself to the flame, you recognize three images of normal brilliancy; and yet the diminution of the sight is not referrible either to amaurosis or glaucoma. The patient should be told, in such cases, to move his eye in every direction, and an object should be presented to it, and made to follow its movements. When this object is in the direction of the cataract, it will not be seen. Having thus ascertained the diseased point, the surgeon must place the flame opposite the diseased region of the eye, when one or two only of the images will be seen, according to the nature of the cataract, and the disease will be recognized. These, no doubt, are the sources of error which have deceived many well-informed practitioners. The following cases are instructive, as illustrating this fact:

CASE I.—In June, 1841, the Duchess of M—— came to consult Sanson: he was then suffering from the long and cruel malady which eventually carried him off (a disease of the spinal cord), and asked me to examine her. The eyes appeared healthy, and had been judged so by several surgeons. The iris was moveable, and the pupil dilated in both eyes. The two posterior images were scarcely perceptible. I was, consequently, inclined to admit the existence of a cataract, and in order to acquire a greater certainty, requested the lady to use a belladonna ointment over the orbits, and to call the fol-

lowing day. Sanson examined her along with me on her second visit. We saw the two images, but so dimly, as to be scarcely perceptible. Sanson agreed with me in admitting the existence of two incipient cataracts, and time has verified our diagnosis.

CASE II.—In the same year, Madame B——, wife of a member of the Institute, consulted Sanson. I was told by him to examine her, and found that there was a region of the pupil of the left eye where one image only was seen. Sanson died, and Madame B—— consulted another practitioner of great eminence. By him she was treated for several months for amaurosis. Not finding her sight improve, she came to me. As I was about to examine the eye with a wax-light, she reminded me that I had employed the same means when she had consulted Sanson, and that I had found one region of the eye defective—a fact which had escaped my memory. This I again ascertained to be the case. I told her to use belladonna ointment; and the following day I discovered, through the dilated pupil, an opacity near the inner angle. One image only was perceived, and on examining attentively the eye at daylight, the circumscribed opacity became distinctly visible: my finger, placed before this region of the eye, was not seen; I consequently diagnosed incipient anterior capsular cataract. The correctness of this diagnosis eventually became evident to every one.—*Lancet*.

On the Diet of Infants, by J. Stewart, M. D., New York.—It is a rare event to have the secrets of the digestive process revealed, and subjected to the test of actual experiment during life, or on a post mortem examination. The former has been exhibited to us in the case of an adult by Dr. Beaumont; and the well-known facts there elucidated have been considered of the most important character. Of no less value are the facts exhibited by post mortem investigations of children, made at Paris a few years since by M. Natalis Guillot, for the purpose of ascertaining the condition of the contents of the bowels of such as died under the use of the ordinary diet of the hospitals. It is the custom at these, and similar institutions, whenever an infant is sick, to withdraw it from the breast, and to substitute for the milk some farinaceous substance made fluid by boiling: arrow-root, gummed rice water, or a thickened preparation of rice, known by the name of “Creme de riz,” and other preparations of a similar nature, forming the diet of the sick infant. In the reported cases of the Foundling Hospital, and those for the reception of sick children, prescriptions of this nature form a very important part of the treatment, as will be seen by referring to the different treatises of French authors on diseases of children. The mortality in the French hospitals is very great, and opportunities are thus continually afforded for examination, in such numbers as to establish to a certainty, almost, any fact which requires the proof of anatomical demonstration. The attention of M. Guillot being directed to the changes which the food given to children underwent, and to the excessive mortality among them, he instituted a series of investigations in a number of cases of death, with special reference to the state of the contents of the bow-

els. He was struck with the uniform similarity, a jelly-like substance being present in the bowels, and in some instances lining both the small and great intestines. This was subjected to the test of the tincture of iodine, which produced an intensely blue colour, thus proving it to be starch.

Here we have a direct proof of the deficiency of the digesting power; the articles given for food had passed through the length of the intestines, and had undergone very little change, and could only act as foreign and irritating substances. The almost entire suspension of the digestive process might indeed have occurred upon the use of any description of food; but when it is considered that a sudden change is usually attended with injury, even in the adult; that vegetable substances are, under ordinary circumstances, more difficult to digest than animal; that the natural food of the infant is entirely dissimilar in its nature to what was at once substituted in the instances above mentioned; we might very reasonably expect to find a suspension of the digestive powers, a very serious aggravation of disease, and the results already stated.

From all the facts here given, it appears to be the most rational course to pursue, to preserve as much simplicity in the diet as the nature of the case and attending circumstances will admit. If in health, when the digestion is unimpaired, as we have seen, food of an animal nature is the proper kind for the infant—in disease there can scarcely be any alteration to food of an entirely different kind, without incurring some risk. It is not my intention to assert, that no alteration whatever is to be adopted, and because one kind of food is provided for the infant, that it would be hazardous to depart from it under any circumstances; such a course would be to discard all sound theory, to abandon all attempts at controlling disease, and, if fully carried out, would reach even to the administration of medicine itself. While we avail ourselves of the plain suggestions of science, and the accumulated experience of ages, let us so adapt them to the peculiar condition of a class of individuals as not to do a positive injury by their injudicious and indiscriminate application. The aged, the robust, the toil-worn labourer, the inhabitant of the city or of the country, the delicate female and the tender infant, all demand some modification in the application of the same universally admitted principles of medicine. In the case of infants we can, without removing them entirely from the breast, avail ourselves of the mild and unirritative effects of substances of the same nature as that upon which the infant feeds. One principal reason given for the adoption of vegetable mucilage, such as infusion of flaxseed, arrow-root, &c., is that it is a soft and soothing application to the tender and inflamed mucous membrane. Now if the same object can be attained by any substance that possesses the same bland qualities, and is also of the same nature as the infant's food, there will be no necessity for resorting to substances, possessing such highly undigestible qualities as those of a vegetable nature. It is not that we may alter the diet from the compound aliment, milk, but to select from some simple alimentary substances, which it is deemed advisable to employ as medicinal agents, that which, from its

essential composition, will be found more nearly allied to the nourishment which nature so abundantly supplies, and thus do no violence to the physical constitution.

Such an article is found in certain animal tissues which yield gelatine; a substance which, it is well known, is soluble in water, and forms with it a jelly. There are different species of gelatine obtained from different parts of the animal, differing somewhat from each other, but agreeing in their general character. The gelatinous solution which constitutes a considerable portion of soups, hashes, and stews, is by no means easy of digestion, having been altered in its character by a high degree of heat, and being combined with other articles which make it very difficult of assimilation. But this is not the case with the purest gelatinous food, such as calf's-foot jelly, or jelly made from isinglass. These articles rarely disagree with the stomach of the most fastidious dyspeptic, if they are good and fresh prepared; and where there is any inflammation of the mucous membrane of the stomach, when arrow-root and other vegetable jellies produce pain and flatulency, I have found this animal jelly to remain and be perfectly digested. The experiments of Beaumont shew that calf's-foot jelly is easily digested, and disposed of in a very short time, and his opinion is, that "gelatine, if not in too concrete a state, is a very digestible article of diet."

There have been some very exaggerated views taken of the nutritive powers of gelatine, and attempts have been made to furnish food exclusively from gelatine prepared from bones, and the utter failure to accomplish the object desired, may be regarded as opposed to Beaumont's statements; but the same objection will also lie against the use of fibrine and albumen when used alone, for, according to the report made to the Academy of Sciences by Magendie, "gelatine, albumen, and fibrine, taken repeatedly, nourish animals for a very limited period only, and in an incomplete manner." The object in giving gelatinous food to infants is not to supply an amount of nourishing matter, but to present to the surface of the stomach something which is in accordance with the demands of nature, and which, instead of exciting that organ to expel it as an unsuitable substance, will promote a healthy action in it, by being speedily digested.

In the adult, Liebeg remarks, "the intensity of the vital force, its power to produce metamorphoses must be diminished as well in the stomach as in all other parts of the body. In this condition the uniform experience of practical physicians shows that gelatinous matters in a dissolved state exercise a most decided influence on the state of the health." Now, in the sick infant, the powers of the stomach to produce a change in the food must be much more diminished, inasmuch as the stomach, at that period, participates more quickly than any other part of the body in the derangements of the vital force; hence the difficulty of digesting vegetable substances.

Nitrogen is a very important constituent in the food of all young animals; it is, indeed, essential to the growth of the body, composing, as it does, a necessary part of the organized living portion of the system. Nitrogen is supplied in great abundance by nature, at the earliest pe-

riod of life ; it is an ingredient in that part of the egg which the young chick makes its food, and of the caseine of the milk, which, we have seen, forms the aliment of the infant under every condition of life. The articles so frequently resorted to of a sudden, in disease, such as arrow-root and similar amylaceous substances, contain no nitrogen whatever ; and it must be evident, without entering into any discussion of the full effects of nitrogenized and non-nitrogenized food, that so great a departure from the plain provision of nature cannot be free from harm ; the stomach being, from the demands of the system, only in a condition to receive food essentially different in its composition. The proportion of nitrogen in the caseine of milk is 15.724 per cent. ; in the albumen of the egg, 15.920 ; and in isinglass, 18.790 per cent. We see, therefore, that the existence of an important ingredient renders the last-mentioned substance peculiarly suitable to the requirements of the body, and on that account we would suppose that it is more easily digested.

The most convenient method of obtaining animal jelly is by using isinglass, which contains from 75 to 90 per cent. of gelatine, and its use will be the best method of fulfilling one of the most prominent indications in the treatment of disordered bowels in infants.

For some years past, it has been my practice to recommend a thin mucilage or jelly made from isinglass in the treatment of the affections referred to, when soothing and unirritating food is indicated, in preference to the use of arrow-root, and with so much uniform advantage, that I have been fully satisfied of its peculiar adaptation to the condition of infants. To give instances, would be to detail almost every case I have been called to attend. It rarely happens that acidity, and other evidences of imperfect digestion, arise to any great extent when this is used ; and from the appearances of the alvine discharges, it would seem that it was completely digested. Since the adoption of this species of diet, I have not had an opportunity of applying any test to detect the presence of undigested starch in the evacuations from imperfectly digested food—for such are the decided benefits which have resulted from the use of animal jelly, in cases of inflamed mucous membrane of the stomach and bowels, that nothing could induce me to substitute anything for it, merely to prove the fact : it would, however, be a remarkable, but not an unexpected corroboration of the views here stated, if the jelly-like appearance of the alvine discharges presented the same results on applying the chemical test of starch, as appeared in the anatomical investigations at the Parisian hospitals above mentioned.

It has been long the practice to administer to young infants, when labouring under that distressing scourge, cholera infantum—when prostrated by debility, and attenuated by protracted suffering—various stimulating articles of an animal nature, such as the juice of clams and oysters, chicken water, or a piece of broiled ham, from repeatedly witnessing their beneficial effects. It is surprising with what avidity the little sufferer will seize and relish a piece of fat pork, when every other species of food is rejected. This instinct, experience teaches us, may be gratified not only with safety but with

actual benefit to the child; and some of our distinguished fathers in the profession have urged the use of such substances, as a very efficacious remedy; and any one who has been a careful observer of the disease, in its most aggravated form, and has yielded to this instinct of the child, must bear testimony to the correctness of the practice.—*New York Journal.*

Case of Aneurism of the Popliteal Artery, cured by Compression of the Femoral Artery, by Edward Greatrex, Esq., Surgeon, and W. T. C. Robinson, Esq., Assistant-Surgeon of the Coldstream Guards. (From the Proceedings of the Royal Medical and Chirurgical Society).—The patient, a private of the Coldstream Guards, 27 years of age, and previously healthy, on the 2nd of May, 1844, complained of pain and swelling behind the right knee. On examination, a large, irregularly-shaped aneurism was found filling up the popliteal space, strongly pulsating, and admitting of being partially emptied by pressure. A delay took place in proceeding to apply compression till the 18th June, owing to the patient having been seized with acute laryngitis. An Italian tourniquet, with modifications in its construction, was then employed; but a relaxation in the treatment was soon required, from the patient being attacked with modified small-pox. On the 8th of July, the tumour having increased in size, the plan was adopted of screwing the pad down firmly upon the femoral artery, and leaving the patient the key, so that, when the pain became intolerable, he might relax the pressure by the instrument, and compress the artery higher up by his fingers. On the following day this method was found to have been successful, for the tumour was perfectly solid, and no pulsation or bellows sound was afterwards perceived. The compression was continued for nine days longer. When the instrument was removed, the femoral artery was distinctly felt to pulsate down to its entrance into the tendinous canal, and two arteries, about as large as crow-quills, could be traced over the surface of the now hard and solid tumour. From this date the swelling gradually diminished; the patient began to walk about on the 9th of August, and he was dismissed from the hospital, to undertake light duty, on the 14th of November. He returned to full duty on the 12th of December, which he has efficiently discharged to the present time.

Mr. B. COOPER inquired of the author of the paper whether he considered that his patient was safe.

Mr. GREATREX was of that opinion: the man had been on regular duty during the last six months.

Mr. COOPER had tried pressure in two cases of popliteal aneurism, but without the instrument and precautions adopted in the case before the Society. In the first of these cases, the patient, a laborious orange porter, was three years since admitted into Guy's Hospital for aneurism of the right popliteal artery, for which the femoral was tied with success. He suffered also from a small aneurismal tumour in the left popliteal space; and for the cure of this pressure was applied to the femoral artery by means of a compress and bandage, the compression

being so regulated as to prevent the circulation through the vessel. The popliteal tumour became smaller, hard, and without pulsation; but in consequence of the healing process of the leg being protracted, from the formation of abscesses, the man was detained for a long period in the hospital, and when discharged was supposed to be entirely well. He returned, however, at the end of fourteen months, with the left popliteal tumour enlarged and pulsating; and it was thought advisable to secure the femoral vessel on that side. Whether the return of the aneurism was owing to absorption of the coagulum, or from the influence of an anastomosing vessel, he could not say, but such was the effect. In another case, in which he had operated on the opposite side a short time before, a man presented himself with aneurism of the popliteal artery; and for this pressure was applied for the space of six months, with the effect of producing an apparently perfect cure. Four months afterwards, however, the disease returned, and the artery on that side was ligatured, and a cure effected. In these two cases there was one point in which they resembled Mr. Greatrex's case, and that was the patency of the artery in communication with the swelling. Looking at this circumstance, so different to what occurred after securing the vessel above, and the return of the disease in his own cases, he viewed the result of Mr. Greatrex's case with some apprehension as to a perfect cure.

Mr. GREATREX said that compression was commenced in his case on the 18th of June, and by the 9th of July no pulsation could be felt in the tumour; the man was as strong on this leg as on the other.

Mr. STANLEY had seen Mr. Greatrex's case; the disease certainly appeared to be cured. Points of importance, however, had been raised by Mr. Cooper. The operations by Mr. Liston, Mr. Cusack, and Mr. Hutton, although at present successful, did not warrant us in concluding that we might trust to pressure alone in cases of this description. In answer to a question, Mr. Stanley replied that the circulation in the artery, in the case before the Society, was free, as it was also in two or three other cases that he had read.

Mr. GREATREX observed, that the mere freedom of circulation through the artery did not militate against the success of the mode he had employed, inasmuch as blood would in some cases flow to the aneurism even after ligature of the femoral.

Mr. COOPER thought that it would require twelve months from the operation to determine whether a cure was effected in cases treated by pressure.

Mr. CURLING said, that the mode of applying pressure pursued by Mr. Cooper was very different from that which was employed in the case under discussion. In one case the collateral circulation was unaffected; in the other it was interfered with. It was reasonable to expect a better result from the one mode than from the other. In the treatment of popliteal aneurism by pressure, it was not necessary to completely obstruct the circulation through the femoral artery, as a mere retardation in the flow of blood would effect the formation of a coagulum in the tumour. We had no evidence at present of the condition of the artery after cure by pressure, but he expected that

we should discover a firm coagulum in the sac, and a patent state of the vessel above.

Mr. GREATREX said, that the only peculiarity in the circulation in his case was, that on the affected side it was somewhat weaker than on the other.

Mr. COOPER knew that his mode of applying pressure was inferior to that pursued in the case before the Society. He considered it by no means proved that, in these cases, the mode of cure was different from that which obtained when the vessel was ligatured. The advocates of treatment by pressure considered it would do away with the necessity of all other operations.

Mr. SHAW recollected the case of a man in whom Sir C. Bell tied the femoral artery some years since, for popliteal aneurism. The pulsation of the tumour ceased for a short space of time, on the application of the ligature; but almost immediately returned, and continued for three days. It then ceased completely. Erysipelas attacked the limb, and six days after the operation the man died. An unusual distribution of the artery was found, for immediately below the giving off of the profunda the artery divided into two large branches, which again united into a common vessel, immediately below the tendon of the triceps. Notwithstanding only one of these branches had been secured by the ligature, the blood in the tumour had coagulated and become firm, as the preparation of the case still shewed. This case illustrated the possibility of a coagulum being found in the sac of the aneurism, even though the channel of the blood was not completely interfered with.

Mr. CHARLES HAWKINS detailed the case of a man who, some time since, was admitted into St. George's Hospital with a large aneurism at the upper part of the thigh. He would not consent to an operation; and as the tumour kept increasing in size, he eventually took to his bed, and there lay for the space of nine months, at the end of which time the tumour was very much diminished, and had since entirely disappeared. Sir B. Brodie had four or five years ago tied the external iliac, for aneurism in the thigh. The patient remained well for two years, when he again returned, with the tumour larger than ever. He shortly after died of disease of the lung; and it was then found that an unusually distributed vessel communicated with the tumour, and reproduced the disease.

Mr. B. COOPER mentioned a case of popliteal aneurism, respecting which he had been consulted some years ago. The patient had six months previously been operated on by Mr. Wilson, of Manchester, an able and experienced surgeon. The cicatrix of the incision was still visible. The tumour had returned a few months after the operation. Mr. Cooper, with some difficulty, now tied the artery lower down. The pulsation in the tumour was instantly arrested, but returned in the space of ten minutes, as forcibly as ever. As it was evident nothing further could be done by operation, the patient was placed in bed, blood taken from the arm, tartar emetic administered, and cold applied to the limb. On the fourth day pulsation had entirely ceased, and the patient continued well until his death, a short

time since, at Milan, at which place he died of aneurism of the heart, In this case, no doubt, some anomalous distribution existed.

Mr. STANLEY inquired what was the condition of the artery between the point of ligature and the aneurism, in the cases which Mr. Cooper had examined.

Mr. COOPER replied, that in four cases which he had seen, the vessel was a mere impervious cord.

Mr. STANLEY had dissected two cases, one on which he had operated six years previously, the other had been operated on by Mr. Lawrence twelve months before death. In the first case the femoral artery was found quite free from just below the ligature to the aneurism ; and in the second case, it was free from the ligature to the middle of the ham. This, he believed, was generally the condition of the vessel, and was owing to the influence of the collateral circulation. In Mr. Lawrence's case the tumour was found to contain successive layers of solid fibrine.

Mr. CÆSAR HAWKINS thought as the tumour in Mr. Greatrex's case had decreased in size, and there had been no pulsation in it for a long period, that that gentleman was justified in considering it cured, except inasmuch as aneurism might return after any kind of operation. It was known to surgeons that aneurism did return at a very late period after operations for its cure. He had seen it return after seven years ; and Sir A. Cooper related a case in which it was fifteen years before it re-appeared. In his, Mr. Hawkins's case, the man came back with a large popliteal aneurism, the result, doubtless, of some anastomosing vessel. Amputation was resorted to, but the man died a few hours after, and it was found that two large vessels came off from the ligatured vessel, one just below the tendon of the triceps, the other communicated with the aneurism. Notwithstanding these anomalies, it was seven years before the sac of the aneurism refilled. If aneurism returned after cure by pressure, that means might again be resorted to. It was not necessary, as had been formerly supposed, to employ extreme pressure in these cases. It was now well known that moderate pressure, so as to retard, and not completely arrest, the circulation, was sufficient to produce a coagulum, and effect a cure. A case was at present under treatment by pressure in St. George's Hospital. In Mr. Weiss's instrument, the pad on the side towards the tumour was too flat ; it would be more manageable if it were somewhat concave.

Dr. M'DONNELL had examined a case of aneurism in which Sir C. Bell had operated twenty years before. The artery above was obliterated.

Mr. SHAW recollected examining a case in which a man had died suddenly of aneurism of the heart, shortly after the femoral artery had been tied by Mr. Arnott for popliteal aneurism. A coagulum had formed in the tumour. The artery was pervious from an inch below the ligature to the aneurism.

A Visitor remarked, that the circumstance of death occurring from aneurism in some other part of the body after operation for this disease, seemed to indicate that there was something peculiar in the general arterial system in these cases.

The President said that in one of his cases death was the result of old age, in the other of aneurism of the heart.—*Medical Gazette*.

Tape Worm.—"The entire family of *tape worms* are constructed in accordance with this inferior plan. Their bodies consist of a repetition of similar segments, every one of which would be entitled to be considered as a distinct animal, except from the circumstance that a single mouth is sufficient to supply nourishment to the whole series, however long. These *Entozoa*, whose structure is perfectly unique, there being nothing resembling them elsewhere in the whole animal creation, take up their residence in the alimentary canal of various vertebrate animals, and thence derive an abundance of food, fully sufficient for the support of their enormous bodies, which in some species have been known to attain the very great length of sixty, or even a hundred feet, and to consist of five or six hundred joints connected together. The *tænia* figured below (*tænia solum*, or solitary worm), an *entozoon* that infests the human race, will serve as an example of the structure of the whole tribe of these singular beings. The joints, as they approach the head, become extremely small, forming a kind of long attenuated neck, upon the end of which is placed the head, an organ formed for taking a firm hold to fix the mouth in situations proper to afford a due supply of food.

"Essentially, the structure of this head resembles that of *Cysticercus*, heretofore described. The mouth is in the centre, a small orifice, surrounded with a double coronet of horny hooks, and likewise furnished with four sucking discs, to ensure a more tenacious grasp. But it is evident a head like this, supported on a neck so slender, would be quite unable to secure attachment for the enormous body it is destined to support; additional and firmer anchorage must therefore be provided; this provision has accordingly been made. Upon the margin of each segment has been placed a strong and prominent sucker, so constructed as to adhere with a firm gripe to the smooth walls of the intestine, where the creature has established its abode; every joint is therefore safely fixed *in situ*, and it thus becomes no easy matter to dislodge a worm like this from all its numerous anchorages.

"Extending from the mouth, two nutritive canals pass backward through the body, reaching quite from end to end, passing along the opposite margins of each segment. At the commencement of each joint these two canals intercommunicate by means of transverse branches, a provision, doubtless, to ensure a free supply of food to every part, which, being thus conveyed through all the joints, the worm, however lengthy, is nourished without difficulty, and even without exertion on its part. But the most astonishing circumstance connected with the history of these tapeworms, is their unexampled fertility.

"Every segment of a *tænia*, as has been already stated, is a complete animal, except as regards the manner in which it is nourished. The proof of this is, that in every segment is situated a complete apparatus for producing eggs, and that quite independently of all the other segments. On reference to the figure, the nature of this structure

will be readily understood. Occupying the whole of the central portion of each joint, and surrounded by the nutritive canal, is situated a very extensive group of short branched tubes, all diverging from a kind of central stem, something resembling the trunk of a tree. At certain periods, all the ramifications of this organ, as well as the central cavity, are found stored with great numbers of minute granular bodies, of a brown colour, amounting, at a very moderate computation, to several hundreds. Every one of the minute grains referred to, upon examination, is found to be an egg, so that hundreds of eggs are periodically produced in every joint of which the *tænia* may consist, and these, when mature, escape out of the body of the worm, through pores placed in the marginal sucker. The number of eggs, therefore, which emanate from a single tape-worm, must be prodigious; for, allowing only five hundred to be derived from any given segment (a very moderate calculation), and the worm to consist of only a thousand joints, we should have a progeny of 50,000 produced in a season; a precious legacy to the world, to be bequeathed by a single *tænia*.

“On the other hand it must be observed, that, fortunately for other animals, the parasites in question are but rarely met with, and when they are found to exist, so unusual is it to find more than one inhabiting the same individual, that the name of ‘solitary worm,’ applied to the species we have been describing, owes its application to this circumstance. Seeing, therefore, the enormous disproportion that exists between the number of eggs produced, and the rarity of the animal producing them, we are naturally led to inquire, what becomes of the eggs? Do the progeny resulting from them exist external to the body, under some other form more familiar to our eyes, and which only takes upon itself the growth and character of the tape-worm when introduced into a locality, where high temperature and abundance of food promote a monstrous growth. Linnæus, indeed, believed that these creatures were, under humbler dimensions, constant inhabitants of marshy grounds, and only needed a more abundant nutriment to call them to their full development; but no observers, since him, have had had reason to confirm this notion. Moreover, when we see their lateral suckers, and the whole construction of their bodies fitted for the parasitic life they lead, we hardly can believe them destined to a different mode of existence. Others assert, that germs so multitudinous are cast into the world, because the probabilities are small, that out of millions, even one or two shall find by accident a proper dwelling-place. It may be so—we know not, nor is it easy to conjecture, on the one hand, why such care has been bestowed to make them prolific, or, on the other, seeing their numerous eggs, how Providence has so restricted their pernicious increase. Among the lower animals, likewise, these creatures are abundantly distributed, though somewhat modified in form, and variously armed about the head, according to the place on which they have to grapple. Some have their heads divided into lobes, on which are placed sharp prongs—real tridents—to infix, and firmly plant within the viscera of their poor victim; such are met with in the perch and pike.

Others have branchy horns on their heads, all covered over with hooks; these too are found in fishes. Still, in all essential points, their structure is the same."

This extract is taken from a beautiful little work by Mr. T. Rymer Jones, F. R. S., F. Z. S., Professor of Comparative Anatomy in King's College, London, "The Natural History of Animals, being the Substance of three Courses of Lectures, delivered before the Royal Institution of Great Britain." In this treatise, the most accurate and scientific details are given, with a force and eloquence, equally attractive to the naturalist and to the professional student anxious to obtain information on subjects so essentially connected with a proper knowledge of human physiology.

A new Vermifuge.—The next disease, deriving importance from its extreme prevalence in Abyssinia, is the *Tænia Solum*, called (wose-fat), which species of intestinal worm attacks all classes, and there are few natives who are exempt from them. By themselves it is attributed to eating brindo or raw flesh, and they assert that those who abstain from this diet are free from the complaint, but that if it once makes its appearance it is seldom eradicated; the Abyssinians retaining the opinion that each joint is capable of reproducing a perfect worm.

Fortunately, the country which is so peculiarly the seat of this disease, possesses a most efficient remedy in the flowers of the Kosso, which tree being so indispensable to the health of the inhabitants, is carefully preserved, and a group of them is always found in the immediate vicinity of the villages.* This valuable anthelmintic is taken by every individual regularly every two months, children commencing the discipline at the age of five or six years, and continuing it for the remainder of their lives. This frequent and indiscriminate use, however, gives origin to serious complaints, of which prolapsus ani is the most common; the great exhaustion following its violent action, when injudiciously administered, sometimes even terminating fatally. The continued use of this drastic purgative, though necessary to the preservation of health, must tend to shorten the natural period of existence, for the Shoans are not a long-lived race, and instances of advanced old age are rarely met with.

Kosso (*Hagenia Abyssinica*), when in maturity, attains the growth of a moderate sized tree, its red racemes of blossom much resembling, in form and distribution, those of the horse chesnut. These flowers are first dried in the sun, and all stalk and extraneous matter carefully removed, and are then pounded fine. The dose varies from six to eight drachms' weight, according to the quality of the drug and strength of the person, and is drank early in the morning in a cup-full of cold water; if kept mixed for any length of time, its power is said

* To mark the importance attached to this remedy, there is a village near Angolalla, without a tree of this species in its neighbourhood, from which circumstance it has obtained the name of "Dewasa Kosso,"—which was explained as meaning, "may God give you Kosso."

to become deteriorated. It usually acts in the course of a couple of hours, the first evacuations being watery, and the worm generally expelled by the third or fourth. During the time of its operation, abstinence from food or drink is enjoined, but afterwards, in the evening, the patient is directed to eat freely of hot spiced dishes, commonly wotz or dillee, and drink mead or beer. Should five or six hours elapse without indication of the medicine having taken effect, it is recommended to eat a full meal, seasoned with hot condiments, which is said to quicken its operation.

A favourable opportunity occurred of trying the effects of Kosso, on a European soldier of the escort, who was troubled with the lumbricus teres, on whom it acted mildly, and effectually. Should it be considered a desirable addition to the materia medica of Europe, a plentiful supply of Kosso might be easily obtained at Massowah on the Red Sea, from the merchants of Abyssinia who visit that port, which is but a journey of five or six days from the country of its growth; or, as it appears of a hardy character, and the climate of Abyssinia seems favourable to northern vegetation, the tree itself might perhaps be successfully introduced, by seed, into Europe.—*Transactions of the Med. and Phys. Society of Bombay.*

On the Use of Sulphate of Manganese in various Diseases, by R. H. Goolden, M.D., Fellow of the Royal College of Surgeons, Physician to H. M. S. Dreadnought, and Assistant Physician to St. Thomas's Hospital.—An article published in the *Medical Gazette*, November 8th, of the past year, entitled "Researches on Gout," by a gentleman eminently celebrated for his knowledge of chemistry, and his application of that knowledge to pathology and therapeutics (Mr. Alexander Ure), called my attention to the use of the sulphate of manganese. This salt has given some marked results affecting the biliary secretions in a remarkable degree. Under the impression that it may make a useful addition to our Pharmacopœia, I have been induced to offer you the results of my experience in its use, claiming no further merit in its introduction than an honest desire to test the truth of Mr. Ure's suggestion by such experience as has been afforded me. When taken upon an empty stomach, in doses of one or two drachms, it has invariably produced vomiting in less than three hours, and generally within an hour; and the matter vomited has consisted of a very large quantity of yellow bile. After a meal, the same effect has taken place, but not invariably.

It very rarely acts as a purgative alone, and after it has been exhibited for several days, I have often been obliged to have recourse to other purgative medicines, in consequence of the want of action of the bowel. After the first dose it seldom acts as an emetic. The appetite has invariably increased during its exhibition, and when the first emetic effect has subsided the patient is free from all uneasy sensations, and expresses himself as feeling lighter and easier than before.

It sometimes leaves a bitter taste in the mouth, which is all that is complained of until the patient vomits.

The stools, which are sometimes dark coloured, soon become yellow and loaded with healthy bile ; but if its use be continued for four or five days, they become lighter, and at length shew a total absence of bile, appearing like jaundiced stools, of the colour of parchment, but there is no jaundice either in the skin or urine.

If the medicine be discontinued, the yellow colour of the stools returns.

In one case which was admitted into the Dreadnought with jaundice, and which subsequently died from inflammation of the spleen, with tubercular deposit in that organ, the jaundice very much subsided under the use of the medicine. The liver was healthy, but paler than natural ; the gall-bladder quite empty, and the spleen very much enlarged, softened, and loaded with huge masses of tubercles.

I have subjoined a few of the Cases illustrative of the action of the medicine, selecting only those portions of them which have immediate reference to the use of the sulphate of manganese.

George Ashlee, æt. 34, admitted for periosteal pains, with large nodes on the shin bones, elbows, and frontal bone : treated with iodide of potassa and opium. He had taken large quantities of mercury in the West Indies for disease of the liver.

After taking his medicine for fourteen days, he lost all his pains, with the exception of the right shoulder, which was so severe that he could hardly move his arm : there was much tenderness at the acromion process ; he was blistered, and had an issue, which did not appear in any degree to lessen this pain.

January 6, 1844.—Under the idea that the pain was connected with the liver, he was

Ordered—3 ij. of *Manganesiæ Sulphas* in Oss. of water in the morning.

He vomited a quantity of pure bile an hour afterwards, and the pain in the shoulder completely left him.

A lady had been under my professional care at various times, since January, 1841. Her sufferings were in connexion with derangements of the liver and bowels.

When not taking medicine, the bowels were confined, and the evacuations dark coloured and scybalous. She was seized at various intervals with excruciating pains, like the paroxysms of gall-stones. No gall-stone has ever been seen, although carefully searched for. She has been severely jaundiced four times, and this has always happened after taking some form of opium, or other narcotic, which I have found it necessary to avoid, unless the paroxysms have been unusually severe, as her recovery was always protracted by opiates in consequence of their affecting the functions of the liver.

These paroxysms are often preceded by a slight yellowness about the eyes and face, flatulence and loss of appetite, nausea, headach, a sense of weight or burning in the right hypochondrium, and with pain or numbness in the right arm.

Since her illness she has become very thin, although in that respect much improving for the last six months, and for the same period has suffered much fewer attacks of spasm. I should mention, that she has occasionally had severe rheumatic pains in the muscles of the chest and abdomen, attended with considerable lithate of ammonia deposit in the urine. The lithic acid diathesis is constitutional. The treatment which has been adopted has been to keep the bowels open, changing the aperient from time to time—*Infus. Sennæ*, with *Magnes. Sulph.*; *Pulna* water; small repeated doses of sulphate of soda or magnesia, compound decoction of aloes, or pills of the watery extract of aloes (*Copeland's Aloetic Pill*), and occasional doses of calomel and blue pill, which were sometimes repeated for several times, until the bilious colour in the stools was produced. The nitromuriatic acid, both as a wash, and given in mixture, with various bitter tonics; but the only bitter that did not derange the stomach was salicine. The *vinum colchici* was used at various times with marked benefit, given in the solution of bicarb. of magnesia. She was generally very tolerant of this medicine, but on one occasion it produced some inflammatory state of the bowel, that made me very unwilling to recur to its use, for the smallest quantity of laudanum always produced obstruction in the liver.

In November she had a very severe return of the paroxysm, which lasted for eight hours, and the following day a recurrence, which continued twelve hours. No opiate was given, but carbonate of soda dissolved in a large quantity of warm water, on account of the vomiting, which it generally allayed, and warm fomentations to the stomach.

After the subsidence of the second attack, the bowels remained constipated, and several doses of five grains of calomel, followed by sulphate of magnesia and senna, and the *Pulna* water, brought away a quantity of scybalæ, and kept the bowels freely open; but the stools were very dark-coloured and loose, and she began to suffer severely from the prolapsus, which induced me to discontinue the use of purgatives for a time, and she was very feeble and depressed, and complained of burning sensations in the right hypochondrium. After several days I ordered—

3ij. of *Manganesiæ Sulph.* in ʒiv. of water to be taken in the morning.

In about half an hour afterwards she vomited Oj. of pure yellow bile, and during the day had three copious motions, the last two of which were quite yellow. I saw her in the evening, when she said that all her uneasiness had left her, she felt in good spirits, and had a good appetite. The manganese was repeated in smaller doses of ʒss. twice a week, for a few weeks; no sickness followed. She left town for the sea side, and has had no return of her bilious attacks since, and is considered by herself and friends to be in good health.

We must not here attribute too much to the effects of the sulphate of manganese, as the patient had been improving in health for some time previously; but the immediate effects of the drug were

clearly marked, in producing the copious flow of bile, which calomel had failed to do, and it is to be observed that no mercurial had been given for three days previous to the dose of manganese.—*Medical Gazette*.

On Aneurism treated by Compression.—Mr. Syme, of Edinburgh, has made some condemnatory remarks on this mode of treating aneurism. When, however, we see, besides Dr. Bellingham, the names of such eminent surgeons as Cusack, Hutton, and Kirby, who have thus treated this affection, we think it deserves consideration. Mr. Syme says:

“ It should be kept in view, that the field for resorting to the use of pressure is limited to the femoral artery, as the superior extremity is liable only to traumatic aneurisms, which are best treated by double ligature of the wounded vessel, while the carotid, subclavian, and iliac arteries, are placed beyond the reach of compression. But the femoral artery may be tied with so much ease, so little suffering, and such perfect safety, that the laborious, distressing, and tedious procedure, which has lately been brought again into notice by a surgeon of Dublin, will probably soon return to the obscurity in which it has very properly been allowed to slumber. For my own part, having tied the femoral artery thirteen times for aneurism, and never met with the slightest symptom of an unpleasant nature from the operation, I shall certainly not deviate from the line of practice hitherto pursued.”

London and Edinburgh Journal of Med. Sci., Oct. 1844, p. 825.

[We give this extract, because we are, besides the case already given, able to adduce another most interesting example of the cure of popliteal aneurism by compression. Facts like this offer the best commentary on Mr. Syme's opinion].

Case of Popliteal Aneurism, cured by Compression of the Femoral Artery. Communicated to the Surgical Society of Ireland by William J. Newcombe, Esq.—On the evening of the 15th of October last, I was requested by Mr. Cusack to go some distance into the country, for the purpose of accompanying a gentleman, affected with popliteal aneurism, during his journey to Dublin. Mr. Cusack had seen the patient in the morning, and had advised him to come to town to have the disease treated.

Early in the morning of the 16th I saw the patient, aged 26; he was lying in bed, and suffering intense pain, which he referred to the lower part of the left thigh, where a large aneurism existed. He stated that some time during the last season he had been thrown from his horse while hunting, and received a slight contusion, just at the seat of the tumour; afterwards he at times was sensible of a pulsation at the upper part of the ham. On the 20th of September last he took a long walk, and shortly after perceived a tumour in the inside of the thigh, which has rapidly increased up to the present time. The tumour now occupies the entire of the upper part of the popliteal space, which it fills, so that the edges of the hamstring muscles cannot be felt; it is prolonged thence along the inner side of the thigh, as far as the internal condyle of the femur. The tumour may, in fact, be considered as consisting of two portions—that occupying the

upper part of the ham, comparatively firm and resisting—and that extending along the inner side of the thigh, considerably the larger of the two, soft, yielding, and compressible, evidently containing fluid blood, and its parietes so thin, that great apprehensions are entertained lest they may give way. There is general œdema of the limb; its greatest circumference at the affected part exceeds that of the opposite one, $5\frac{1}{2}$ inches. It is unnecessary to state in minute details the general characters of aneurism presented by the tumour; but it is necessary to mention that the pulsation is much stronger in the larger portion of the tumour than in that which occupies the ham, and though pressure on the femoral artery caused complete cessation of the pulsation, it produced no diminution in the size of the tumour. It is remarkable, however, that the pain, which was very severe in the tumour, and also in the course of the saphena nerve, ceased completely when pressure was made on the femoral artery in the groin. Seeing that the greater portion of the aneurismal sac was so very thin, and its contents perfectly fluid, it was thought prudent by Mr. Cusack to apply pressure on the femoral artery during the removal of the patient to Dublin; and for this purpose I was furnished with a press artere, with which Mr. Cusack had previously effected a cure in a case of popliteal aneurism, and which is described and figured in the *Medical Press*, vol. ix. p. 279. Pulse, 120. Previous to the commencement of our journey, this instrument was applied, the pressure being made on the artery as it crosses the pubis; the pulsation in the tumour was easily commanded. The pain in the limb was at the same time completely removed. The instrument was kept on until our arrival in Dublin, being, however, now and then, slightly relaxed, when its presence caused uneasiness. After our arrival in Dublin, Mr. Cusack having requested the professional assistance of Sir Philip Crampton, it was determined to treat the case by pressure on the main artery above the tumour: but, owing to the fatigue of the patient, it was thought prudent to allow him a night's rest.

17th. The patient stated that he passed a very restless night, in consequence of the pain having returned very acutely after the removal of the instrument; pulse 120.

It having been determined to use two instruments similar to those described by Dr. Bellingham in the *Medical Press* for August 28, 1844, and in the same manner as he had employed them in a case of the same kind, I proceeded to apply the pressure in the following manner, in the presence of Mr. Cusack and Sir P. Crampton:—One clamp was applied to the femoral artery at the lower part of Scarpa's space, sufficiently tight to greatly diminish, without completely arresting, the flow of blood through the vessel, and nearly to stop the pulsation in the tumour; the other clamp was applied higher up upon the limb, but not tightened. When the pressure from the first clamp became inconvenient, the second was tightened, and the other was relaxed. By thus alternating the action of the instruments (which it was found necessary to do at intervals, varying from half an hour to an hour, and by shifting them, as occasion required, to various points, ranging from the pubis to the edge of the tumour), permanent pres-

sure was enabled to be maintained. It would have been easy to have stopped the current through the artery, but when pressure was carried to this extent, the patient complained of palpitation of the heart, which, however, ceased when the instrument was slightly relaxed. It may be well to observe, that the nature of the disease, and the principle of the treatment proposed, had been explained to the patient, who materially aided in the management of the case. No bandage was applied to the limb, or over the tumour.

Low diet was enjoined, and digitalis was administered, with an opiate at night.

No pulsation can be felt in popliteal or tibial arteries.

18th. Passed an uneasy night, having been unable to bear pressure on any one point for many consecutive minutes; pulsation cannot now be felt in the tumour; the parietes of the sac, where they were previously so thin, are already perceptibly thickened; the pulsation in the femoral artery is obvious, but the blood flows through it in a diminished stream: pulse 120. As it was now found that pressure could be borne for a longer period when applied below the origin of the profunda, it was chiefly applied in that situation.

19th. Had some sleep; the tumour not only continues without pulsation, but has perceptibly diminished in size, especially in its popliteal portion, where the edges of the hamstring muscles can now be felt, while the solidity of its larger portion has still further increased. The femoral artery can be traced to the edge of the tumour, beyond which point no pulsation can be detected, either in its trunk or in that of the popliteal artery. The articular arteries of the knee are enlarged; a large arterial branch can be felt running along the internal surface of the tumour; some small branches ramify over it in different directions; some slight soreness is complained of over the saphena nerve; pulse 80.

20th. Passed a quiet night; pressure can now be borne for a much longer period in one situation; little alteration in the tumour, except that it appears something harder and somewhat further diminished in size. A slight pulsation can be detected in the anterior and posterior tibial arteries. The instrument was tightened so as to stop the circulation in the femoral artery; no palpitation followed; pulse 80.

21st. Slept well; tumour decreasing; pulse 80.

24th. Tumour harder, particularly in the popliteal portion. The instruments were removed for a short time; no pulsation in tumour followed.

Omit digitalis.

27th. Moderate pressure was maintained on the artery since last report, but this day it was entirely removed. The tumour has continued to decrease, particularly in its popliteal part; some fluid can still be detected in the larger portion, but no pulsation.

A cold evaporating lotion was ordered to be kept constantly applied.

Mr. Cusack considered the disease was cured at the last report, and it was only in accordance with the patient's wishes that the pressure had been continued until this day.

November 2nd. The tumour has continued steadily to diminish ; its popliteal portion has almost entirely disappeared ; the circumference of the limb at the site of the tumour only exceeds that of the opposite one somewhat less than an inch ; no pulsation in popliteal artery, but the anterior and posterior tibial arteries have apparently resumed their natural size.

26th. The patient was permitted to move from his bed to a sofa, having an elastic bandage round the entire limb. A few days subsequently he was allowed to walk with the assistance of crutches, the foot being supported by a sling.

February 14th. Not the slightest trace of the tumour can be now detected ; the use of the limb is perfectly restored ; the femoral artery can be traced to the place where the tumour was, but no farther ; the popliteal is hard and cord-like.

During the entire course of this treatment there was no perceptible difference in the temperature of the two feet.

State of Surgery in the Kingdom of Shoa, by R. Kirk, Esq.—The practice of surgery is equally rude and unadvanced as the science of medicine. The Shoans being a mounted race and frequently engaged in warlike expeditions, a rude mode of treating the more common accidents is known to all, and each warrior considers himself competent to assist his wounded comrade, whilst every village produces its proficient in the arts of bleeding, cupping, and the application of the actual cautery, which are freely used in many complaints. When questioned about their surgical operations, they relate a long list of marvellous cures performed, most of which, however, are so unworthy of credence, as not to deserve a record, though a few have been inserted to shew the nature of their ideas on this subject.

In the treatment of recent dislocations, direct manual extension is at once had recourse to ; but if the accident is of a few days' standing, a poultice of the undigested contents of the stomach of a sheep is applied over the joint, or it is bound up in the leaves of the embachoo tree, and after a day or two, extension is attempted ; but they are ignorant of the advantage to be derived from relaxing the power of the muscles by varying the position of the limb, nor does the number of the unreduced cases met with, speak highly of their knowledge in discriminating these accidents, or their skill in treating them.

In fractures, extension is made until the limb is ascertained to be of the same length as the other ; short narrow splints are then applied, and the part bound up firmly until union has taken place. In a case of severe compound fracture of the tibia which came under notice, one of these splints had been applied directly over a projecting portion of the bone, which subsequently required the use of the saw before reduction could be effected.

A case was related in which a fracture of the leg in a man of high rank having united badly, producing lameness and deformity, the leg was laid on a board, and the bone rebroken in several places with a stone ; the limb having been restored to its proper length, was again bound up in splints, and continued extension kept up by suspending

the leg from the wall, the patient having been kept on his back during treatment, and in twenty days a satisfactory union had been completed. They also say that in some severe comminuted fractures of the cranium, it is common to abstract the fragments and replace them with a corresponding portion of skull taken from a recently slain sheep or goat, over which the integuments are drawn, adhesion taking place, and no ill consequence following the introduction of the foreign portion of bone.

In incised wounds of any extent, the continued suture by needle and thread is generally used, or the edges of the wound are brought together, and thorns introduced through them at distances of about an inch, and thread then wound round them, as after the operation for harelip. In a severe lacerated wound of the thigh inflicted by the tusk of an elephant at Gidem, this rude contrivance was so effective in keeping the parts in apposition, that no alteration was required; a mixture of finely powdered Kossa with a gum resin called kurvi, is generally applied over wounds of this description.

In contused wounds where adhesion is not expected to take place, it is usual to fill the wound with "dillee," a stimulating condiment, compounded of red chillies, salt and garlic, for the purpose of promoting suppuration and the production of granulations. Amongst the Belooches of Scinde the same practice prevails, and in the treatment of their very severe sword cuts, the cure is usually commenced by the application of curry powder.

In a wound of the abdomen, through which the intestines protruded, which could not be returned, a small gourd was obtained, cut in half, and carefully shaped; within this the portion of intestine was lodged, the gourd was then introduced beneath the integuments, which were drawn over it, adhesion took place, and the man, Ayto Gubroo, lived for several years after the operation. This is said to be by no means a rare instance of this mode of treatment having proved successful, wounds of this description being rather common from injuries inflicted by the spear.

To ulcers, a strong decoction of gooman, a coarse species of cabbage, is a common application; and in some indolent cases, I have seen the dross from the iron smelting furnace sprinkled in a state of fine powder over the sore. To burns and scalds they apply a solution of the common ink of the country, which is brought in cakes from the Somauli country, and appears to be a composition of mucilage of gum Arabic with soot or lamp-black.

Bleeding is often had recourse to in fevers and severe headaches, and is performed by applying a stick across the mouth; a tight bandage is then fastened round the neck, and on the veins of the forehead becoming turgid, one, generally in the mesial line, is opened with a razor and bleeds very freely; cupping is also a common practice, the incisions being made with a razor and suction effected by a horn as in India, the air being exhausted by the mouth through a small aperture in its upper end. In cases of inflammatory sore throat, it is common to introduce the fore finger and scarify the lining membrane with the nail pared sharp for the occasion, which is followed by a copious effusion of blood.

Leeches are to be procured, but they are of small size, and inefficient for medical purposes, but most probably might be improved by proper culture.

Actual cautery is the usual remedy for rheumatism and various local pains ; it is effected by producing ignition by the rapid friction between the palms of the hands, of a piece of light wood received in a small hollow of another portion, the ignited end of the stick being applied to the affected part ; or a small pile of rag is placed over the spot, which is set on fire and allowed to smoulder down. It is a common practice to make frequent applications of cautery on the right fore-arm, as they imagine by the contraction of the cicatrices, the muscles become more firmly bound, and the arm strengthened for the exercise of throwing the spear.

Teeth are abstracted by the common pincers of the blacksmith ; if these fail, the offending tooth is punched out with a nail and stone. For tooth-ache, they chew, over the affected part, a small bag filled with the fresh leaves of hot and aromatic plants.

During the sojourn of the British Embassy in Shoa, its members and followers, amounting to above thirty individuals, natives of Europe, of Western Asia, and of India, enjoyed almost uninterrupted health ; a few slight cases of fever, rheumatism, catarrhs, and other complaints prevalent in the country occurred, and one severe dysenteric affection in a soldier of the escort, a relapse of disease contracted in India, but none deserving of particular notice. And in concluding this report it affords me great pleasure to state, that during the two years' absence of the Embassy, no death from natural causes has occurred, speaking highly for the healthy character of the climate of Southern Abyssinia, and a rare event in the history of African exploration.—*Transactions of the Med. and Phys. Society of Bombay.*

Treatment of Delirium Tremens, by Dr. Morehead.—It is distinctly stated by Dr. Blake, that the mental irritation in delirium tremens requires a given time to subside ; and it is also the opinion of Dr. Ware, of Boston, that the disease runs a certain course. From considering the cases which have passed under my own observation, I had arrived at a similar conclusion, and at a time when I was not aware that the same opinion had been entertained by previous observers.

The circumstances which guided me to this opinion, were, 1st, the frequently observed fact, that the quantity of opium which on one day failed in inducing sleep, succeeded on the following ; a circumstance to be explained, either on the supposition that the natural tendency of the symptoms was to abate, after a certain course ; or that the effect of the opium was cumulative,—a conclusion which would be contrary to our experience of the action of that medicine in all other diseases. 2nd. Again, in cases treated with full opiates frequently repeated, I have several times remarked, that sleep was induced for three or four hours, but that the patient then woke up delirious as before ; and some of these cases I have known to terminate fatally.

It is this feature,—I mean the circumstance of the second stage

running a certain course,—which it seems to me has not received its full consideration, in relation to treatment; for, if acknowledged, it may be safely affirmed, that the indication of cure is not by full doses of narcotics, to force a state of sleep, but to conduct the patient through the period of delirium, by withdrawing all sources of irritation, by moderating or sustaining the circulation, and by calming the nervous excitement. Though a similar opinion is expressed by Dr. Blake in the following words: “It does not appear to me to be of any service to attempt to break the chain of morbid concatenation too abruptly, as the stage of mental irritation seems to require a given time to subside, in proportion to the stage of exhaustion, to the mode of treatment adopted, and to its previous causes.” I am not aware that any subsequent writer has given to this feature of the disease that prominence which its importance demands.

The indications of cure, as thus stated, are, I think, best effected by means of the cold affusion, and the use of tartar emetic, combined with opium, or other narcotic, and the exhibition of stimulants.

In regard to the *cold affusion*, it may be used with excellent effect three or four times in the course of the 24 hours, the most important, however, being that before bed time, in all cases in which the circulation is steady, the skin not covered with perspiration, or its temperature not reduced below the natural standard, or in which there are not present any of the local complications which contra-indicate the use of this remedy under ordinary circumstances. In cases in which, from the state of the pulse, there may be doubt of the propriety of the cold affusion, it frequently becomes quite admissible by preceding its use by the exhibition of a stimulant (as brandy, &c.); and in the still more doubtful cases, and even in instances in which the measure may be decidedly contra-indicated, there is good effect from using cold affusion to the head, and at the same time a hot foot bath.

There is not, according to my experience, much difficulty in inducing patients to submit to this remedy; and it is hardly necessary to add, that the employment of coercive measures to effect it, is altogether inadmissible. In considering this statement, however, it must be borne in mind, that I write of experience in a climate whose mean temperature is about 80°, and that the water used has never been artificially cooled; and that the practice of frequent bathing is habitual to many of the patients. The first consideration is important, as bearing on the question of the temperature of the water used; and the second, as in all probability explaining the little difficulty which has been experienced in inducing patients to submit.

But the exhibition of *tartar emetic, with opium or other narcotic*, first, I believe, introduced into practice by Dr. Law, of Dublin, and followed by Dr. Graves, Dr. Clendinning, and others, constitutes the most successful means of controlling the symptoms of this stage of the disease. This mode of treatment has, during the last five years, been much followed in the cure of delirium tremens, in the European General Hospital at Bombay; and there has been also, during the same period, ample opportunity of comparing the result, with that of the mode of treatment by free opiates frequently repeated.

Tartar emetic and opium, in proportions modified according to the symptoms, and associated with the use of the cold affusion and stimulants, is, in my judgment, a much more successful and satisfactory mode of treating the second stage of delirium tremens, than the more common plan of giving free opiates uncombined, or in combination with stimulants alone, and is moreover devoid of the risk of positive injury which more or less attends the latter system of treatment.

The tartar emetic has been given by me in doses from half a grain to a grain in an ounce and a half of camphor mixture, with from twenty to thirty minims of tincture of opium or tincture of hyosciamus, repeated every hour, second or third hour. The variations in the dose, and the intervals at which given, being dependent on the state of the circulation, the condition of the skin, and the degree of mental excitement. Though in determining these variations, there is room for the exercise of discretion in each particular case, still, it will probably be found, that the greater number of cases are sufficiently controlled by three-fourths of a grain of tartar emetic, and thirty minims of tincture of opium or tincture of hyosciamus every second hour, continued till sleep is induced,—with intermissions of several hours, at times, if the sinking of the pulse, or reduction of the temperature of the skin, should indicate the expediency of such a measure. The tincture of opium is, I think, the more useful; the tincture of hyosciamus having been used in the milder cases, and chiefly with the view of avoiding the constipating effect of the former. The tartar emetic, even in grain doses, thus combined and repeated every hour, very seldom causes nausea or vomiting; in fact, it has seemed to me, that in the second stage of delirium tremens, there is as complete a tolerance of the emetic action of the tartar emetic as is present in pneumonia; and this I have remarked, even in cases in which there had been irritability of stomach during the first stage,—an observation which also accords with Dr. Law's experience.

In cases treated in this manner for about twenty-four hours, without tendency to sleep appearing, it is often very useful to intermit this medicine for a few hours before bed time; then to use the cold affusion, preceded, if the pulse and skin indicate the expediency, by a stimulant, and after the affusion, to give one dose of the antimonial, with a drachm or a drachm and a half of the tincture of opium. By this means, sleep is often induced in cases in which, without this fuller opiate, it might have been postponed for several hours. It is, however, I think, very generally of no avail to adopt this course within the first twenty-four hours of the second stage.

Stimulants, as wine, brandy, &c., are more or less required throughout the treatment of this stage of the disease; and their use is perfectly compatible with that of the cold affusion and the exhibition of the tartar emetic and opium. The degree to which these stimulants are required in individual cases, must vary according to what may be known of the previous history of the patient, the state of the pulse and skin at different periods; and this latter symptom ought to be the principal guide.—*Transactions of the Med. and Phys. Society of Bombay.*

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PART I.

ORIGINAL COMMUNICATIONS.

ART. V.—*Observations upon the Employment of Compression in Aneurism, with some statistical Details.* By O'B. BELLINGHAM, M. D., F. R. C. S. I., one of the Surgeons of St. Vincent's Hospital.

THE subject of aneurism, since the time of Hunter, has always been one of extreme interest to surgeons, manifested by the numerous attempts which have been made to modify, or to simplify the Hunterian operation. Thus, to assist union by the first intention after the operation, the two ends of the ligature were formerly sometimes cut off; or the ligature, after having been applied for a certain length of time, was removed, and the lips of the wound then brought together; or the ligature itself was discarded, and a *presse artere* applied instead to the denuded artery, and retained for a longer or shorter period, according to circumstances. But as these different proceedings were occasionally followed by unfortunate results, they came ultimately to be, in a great measure discontinued, and surgeons were content to follow the Hunterian operation, adopting only such improvements

as time had sanctioned. Nevertheless, the operation of placing a ligature upon a large artery was always one of considerable anxiety to the surgeon, seeing that even the most skilfully performed operations were now and then followed by secondary hæmorrhage, by phlebitis, or by gangrene ; any treatment consequently, which promised to do away with those risks, was a great step in advance.

When I first brought the subject of compression in aneurism before the Surgical Society of Ireland, only three cases had occurred in which this proceeding had been employed : that number has now been increased to twelve. Upon that occasion I observed : “ The application of well-regulated pressure in the treatment of popliteal aneurism, cannot but be looked upon as a most important improvement in surgery. The operation of tying the femoral artery is perhaps the least successful of that on any of the larger arteries ; and when three cases have occurred in succession, in three different hospitals, within a short period, it is not too much to expect that the necessity for performing this operation will in future be much diminished. This result, however, must depend upon the trial of compression in a larger number of cases : though its success in these offers great encouragement to surgeons to attempt it, inasmuch as the difficulties which hitherto surrounded it, in the imperfect construction of an instrument for the purpose, have been in a great measure overcome ; and the correct theory of the mode of action of compression, and the amount of pressure required for the success of its application, have been nearly established.”

That I was not then over-sanguine, has been shewn by the subsequent results of this mode of treatment ; and the success which has attended the treatment of aneurism by compression, may be judged of by the following list of cures which have been effected since its introduction by Dr. Hutton, in November, 1842. The cases are arranged as nearly as possible in the order of their occurrence.

Cases of Popliteal and Femoral Aneurism cured by Compression between November, 1842, and February, 1845.

1. Dr. Hutton. Richmond Hospital, Dublin. Popliteal aneurism.
2. Dr. Cusack. Steevens's Hospital, Dublin. Popliteal aneurism.
3. Dr. Bellingham. St. Vincent's Hospital, Dublin. Popliteal aneurism.
4. Mr. Liston. University College Hospital. Femoral aneurism.
5. Dr. Harrison. Jervis-street Hospital, Dublin. Popliteal aneurism.
6. Mr. Liston. University College Hospital. Femoral aneurism.
7. Dr. Bellingham. St. Vincent's Hospital, Dublin. Femoral aneurism.
8. Dr. Kirby. Jervis-street Hospital, Dublin. Popliteal aneurism.
9. Dr. Allan. Royal Naval Hospital, Haslar. Popliteal aneurism.
10. Mr. Greatrex, Assist. Surgeon, Coldstream Guards. Popliteal aneurism.
11. Dr. Cusack. Private patient, Dublin. Popliteal aneurism.
12. Dr. Porter. Meath Hospital, Dublin. Popliteal aneurism.

Eight of these twelve cases were treated in Dublin; and in all the cure has been permanent. The aneurismal tumour in a few instances was of very large size, and in a few the operation by ligature would very probably have failed, owing to the diseased condition of the vessel, or some other cause.

It will be observed, from the histories of the cases which have been published, that the femoral artery could be traced after the cure to near the sac of the aneurism; proving

that the artery is never obliterated at the point compressed. Upon a former occasion* I endeavoured to shew that such an amount of pressure as would obliterate the artery is never necessary; and that a cure would be more certainly and more quickly brought about, by allowing a feeble current to pass through the sac of the aneurism, than by completely checking the circulation in the vessel. As this principle appears to have been established by the results of the cases which have occurred in this country since, I shall now merely quote what I then said upon the subject.

“ When it was considered absolutely necessary for the success of compression, that such an amount of pressure should be applied, as was almost certain to occasion sloughing of the part, and very certain to occasion intense pain and suffering to the patient; and when, in addition, this was to be prolonged through five successive nights and days, we can readily understand why patients refused to submit to it, and we can easily account for the disrepute into which the practice fell, and for the unwillingness of surgeons to adopt this treatment in preference to the simple operation of placing a ligature upon the femoral artery. It would appear, however, that it is not at all essential the circulation through the vessel leading to the aneurism should be completely checked, but rather the contrary: it may, perhaps, be advantageous at first for a short period, by which the collateral circulation will be more certainly established. But the result of this case, if it does no more, establishes the fact, that a partial current through an aneurismal sac, will lead to the deposition of fibrine in its interior, and cause it, within a few hours, to be filled and obstructed, so as no longer to permit of the passage of blood through it. Pressure, so as altogether to obstruct the circulation in an artery, must necessarily be slower in curing an aneurism, as it must in some measure act

* *Dublin Journal*, vol. xxiii. p. 465.

by causing obliteration of the vessel at the part to which the pressure has been applied ; whereas a partial current through the sac enables the fibrine to be readily entangled in the parietes of the sac in the first instance, and this goes on increasing, until it becomes filled ; the collateral branches having been previously enlarged, the circulation is readily carried on through them."

It is deserving also of remark, that, in the cases which have been detailed in full, an enlargement of the articular arteries about the knee coincided almost with the cessation of pulsation in the tumour. This increase in size of the anastomosing vessels, shewing that the collateral circulation is becoming established, is obviously a very favourable sign ; and, if it occurs early during the treatment, we may look for a speedy cure, as it indicates the filling-up of the aneurismal sac.

The principal improvement which has taken place in the treatment of aneurism by compression, consists in the mode of applying the pressure ; that is, instead of employing a single instrument, we employ two or three if necessary ; these are placed upon the artery leading to the aneurismal sac, and when the pressure of one becomes painful, it is relaxed, the other having been previously tightened, and by thus alternating the pressure, we can keep up continued compression for any length of time. By this means the principal obstacle in the way of the employment of pressure has been removed ; the patient can apply it with comparatively little inconvenience to himself ; time will not be lost owing to the parts becoming painful or excoriated from the pressure of the pad of the instrument ; and as the pressure need not be interrupted for any length of time, the duration of the treatment will be necessarily considerably abridged.

Some of the success of the improved method of applying pressure must, however, be referred to the improvement of the instrument used. That which I employed (made by

Mr. Millikin, of Grafton-street), is a modification of a carpenter's clamp, which was invented by a patient under Dr. Harrison's care for popliteal aneurism, whom I had the opportunity of seeing several times, both while under treatment and after a cure had been effected. It consists of an arc of steel covered with leather, at one extremity of which is an oblong padded splint, the other extremity terminates in a nut, containing a quick screw, to which a pad similar to that of the tourniquet is attached. The principle of this instrument is exceedingly simple, so much so, that the patient can regulate its application himself, and it can be made of every size, so as to compress any vessel within the reach of compression. It appears to be a much superior instrument to that which was employed in the cases treated in the London hospitals, the application of which cannot be maintained for any length of time, without occasioning severe pain.

ADVANTAGES OF COMPRESSION OVER THE LIGATURE.

I propose now to enumerate some of the advantages which compression appears to possess over the ligature in the treatment of external aneurism.

In the first place, the employment of pressure is not attended by the slightest risk to the patient. If this applied to the operation by ligature (leaving out of consideration the horror many patients have of the surgeon's knife), it might not constitute a very stringent argument with some, for deviating from what are considered established usages; but when the facts are so much the reverse, when even the most carefully performed operation for aneurism of a large artery is liable to be followed by fatal results, and when this is due, not to the increase of the disease, but to the operation performed for its relief, a mode of treatment which is exempt from all danger has obvious advantages on the score of humanity; and when this mode of treatment has proved successful in every case in which it has been carried out since

its introduction, it must constitute a powerful argument in its favour over the ligature.

Again, pressure is applicable to certain cases of aneurism to which the ligature is not, as well as to some cases in which the operation by ligature would be likely to be followed by unfavourable results. For instance, when an aneurism has attained a very large size, the long-continued pressure of the tumour must act injuriously upon the collateral circulation, compressing the veins, perhaps obliterating the arteries in its vicinity, and causing œdema of the limb below. If a ligature under such circumstances is applied, the extremity is very likely to be attacked by gangrene. This cannot happen in the treatment of aneurism by compression, which acts slowly and gradually, and can be interrupted at any time. Indeed, it appears to me, that pressure would probably succeed more quickly in curing a large than a small aneurism; inasmuch as the lining of the sac of a large aneurismal tumour is generally rougher and more irregular than that of a small one; it will therefore more readily entangle the fibrine of the blood which is allowed to flow through it: moreover, in several of the examples of aneurism cured by compression, which have been published, the tumour was of a large size.

Again, when an aneurism has attained a large size, if its contents are principally fluid, and its parietes are much thinned, inflammation and suppuration of the sac very commonly follow the application of the ligature, which may bring the patient's life into danger, and, at best, must render the recovery very tedious. This has never occurred yet after the use of compression, and such a result is evidently much less likely to follow it. Indeed, Mr. Cusack's last case of popliteal aneurism cured by compression, is an example in point; the tumour was of large size, the circumference of the limb at its seat being five and a half inches greater than on the opposite side; its parietes were so much thinned that "great apprehensions were entertained lest they should give way;" the limb was likewise œdematous; and yet every thing

proceeded as favourably as could have been desired, and the cure was completed within a shorter period than in several of the other cases which have been related. Mr. Liston's second case of femoral aneurism cured by compression, is also a good example; here the aneurism is stated to have been no less than sixteen inches in circumference.

Again, aneurism not unfrequently occurs in individuals in whom the coats of the artery, between the tumour and the heart, are so much diseased, that the vessel, instead of taking on the adhesive inflammation after the application of the ligature, ulcerates; or the ligature cuts its way through; or aneurism may occur in subjects labouring under valvular, or other disease of the heart. In such cases the operation by ligature is contra-indicated, and would almost necessarily fail; whereas pressure may be applied with the same prospect of success as in subjects in whom the heart and arteries are perfectly healthy. Indeed, in one of the earliest cases of popliteal aneurism treated by compression, since its re-introduction by Dr. Hutton, the patient was not considered a favourable subject for operation.

Pressure is applicable to cases of the aneurismal diathesis, and when more than one aneurism exists at the same time; cases in which the operation by ligature is likewise contra-indicated: as well as to cases of spontaneous aneurism occurring in individuals of intemperate habits, or of broken-down constitution, in which the surgeon, with great reluctance, would perform any operation. A few cases have been related in which the operation by ligature failed in consequence of some irregular distribution of the artery above the aneurism. Now, in such cases, compression promises to be equally effectual as in any other. Again, cases occasionally occur, where the patient has so much horror of a surgical operation, as to refuse to submit to it, although made acquainted with the risk of delay. Such individuals will gladly embrace any means by which they may be re-

lieved from the necessity of undergoing an operation, and will cheerfully submit to any other method of treatment which promises a chance of cure. Indeed, it may be said to have been this accidental circumstance which led to the recent re-introduction of compression in the treatment of aneurism.

Lastly, if pressure should fail to cure an aneurism (which, from the results hitherto observed, is very unlikely), its employment will not preclude the subsequent operation by ligature; but, by retarding the increase of the aneurism, and assisting in the establishment of the collateral circulation, it would tend rather to render the chances of the operation by ligature more favourable.

OBJECTIONS TO THE TREATMENT OF ANEURISM BY PRESSURE ANSWERED.

I propose now to make some observations upon the objections which have been put forward against this method of treating aneurism, since its re-introduction in Dublin, and shall endeavour to reply to them.

It has been urged as an objection to the treatment of aneurism by pressure, that the arteries are few in number to which this mode of treatment is applicable; but what is really the fact? The artery, above all others, in which aneurism is most frequent, after the aorta, is the popliteal, and next in frequency come the femoral and the brachial. Lisfranc has given a table of 179 cases of aneurism (exclusive of those of the aorta) collected from various works, and of this number the popliteal artery was engaged in fifty-nine instances, while the carotid was engaged seventeen times, the subclavian sixteen, and the external iliac only five times. But even this must be much below the average, for few cases, comparatively, of operations for popliteal aneurism have been published (owing to its frequency), unless there happened to have been some peculiarity in the case; whereas most of the

operations upon the iliac, subclavian, and carotid arteries, have been brought before the Profession, on account of the infrequency of the disease in those vessels. It must be recollected also, that aneurism of the subclavian, or carotid arteries, near their origin, and of the common iliac, or inominata, which do not admit of the application of compression, do not admit either of the employment of the ligature. It surely, therefore, ought not to be urged against this method, that, because aneurism occurs in arteries beyond its reach, we should refuse to apply it to vessels to which it is adapted; or that the practice should be denounced, because it is not applicable to every vessel.

It has been objected to this method of treating aneurism, that the pulsation is likely to return, in consequence of the artery not being obliterated at the point to which the pressure is applied; and that the patient therefore cannot be considered safe from a relapse for a considerable period. Now, in my mind, a case of aneurism treated by pressure upon the artery above it, and according to the rules laid down, is much less likely to be followed by a return of the pulsation than one treated by the ligature, and for these reasons: The manner in which pressure brings about the cure of aneurism, appears to be very nearly that by which Nature, under the most favourable circumstances, effects a spontaneous cure. The fibrine of the blood is entangled by the lining membrane of the aneurismal sac, successive depositions occur until the sac is completely filled, the tumour becomes solid, and all pulsation ceases. The sac no longer permitting the passage of blood through it, the collateral branches become enlarged, and the circulation is carried on by them. The tumour then gradually diminishes in size, owing to the absorption of its contents, and the gradual contraction of the sac, and, finally, it disappears. On the other hand, when a ligature is applied to an artery, as, for instance, to the femoral, for popliteal aneurism, the current of blood into the sac

is at once intercepted ; after a time, however, the blood finds its way into it by the collateral branches : now, if an anastomosis of large vessels exists between the branches of the artery above the ligature, and those between it and the aneurism, a strong current of blood will come to pass through the sac, and the pulsation will return, which cannot happen in the former case for the reasons stated. The sac of the aneurism likewise, after the application of the ligature, not being necessarily filled by solid fibrine, but by a coagulum which may be more or less loose, pulsation is more likely to return, as the sac must contract considerably before the patient can be considered safe from a relapse ; and this, from the inelastic nature of the parietes of the sac, must require, sometimes, a long time to be accomplished.

It has been also urged as an objection to this mode of treating aneurism, that it is more tedious and more painful than the method by ligature. That it is less tedious, sometimes, several of the cases which have been published prove ; indeed, in one of the last cases cured by compression, the pulsation in the aneurism ceased in a few days after the application of the two instruments ; in some of the others the cure was also rapid ; and if, in a few others in which this mode of treatment was adopted, a longer time elapsed, it depended probably upon the imperfection of the instrument, the irritability of the patient, or upon two compressors not having been employed together. With respect to the treatment by compression being more painful than the operation of placing a ligature on the vessel, including the subsequent dressings, until the ligature separates, and the wound is healed, this might have been an argument against the method, when so great a degree of pressure was supposed to be necessary, as would obliterate the vessel at the part to which the instrument was applied ; but the fact is, the application of the compressor (according to the rules laid down now), really relieves the pain which the aneurismal swelling occa-

sions ; after it has been applied, however, for a certain time, the pressure does cause pain, but the patient then can relax it, after having tightened the other instrument, and so continue to compress different points of the vessel for any length of time.

It has been also urged, that the period which has intervened since the re-introduction of this method of treating aneurism is too short to allow us to conclude that the cures will be permanent. I do not know the exact length of time which it is considered necessary should elapse before a cure in such a case can be pronounced permanent: two of the cases of aneurism treated by compression in this city, have remained well for upwards of two years, and two others for nearly the same period, and in none of the remaining cases has there been any tendency to, or appearance of a relapse. Now supposing, for argument sake, that the aneurism should return,—the same thing has occurred after the application of the ligature ; and if there should be a relapse, would not pressure be as applicable then as in the first instance ? and would not its employment be much more certain and safe than the application of the ligature a second time ?

The last objection to the plan of treating aneurism by compression, or rather, I should say, the last objector to this method, is Mr. Syme, of Edinburgh. His arguments against it are, however, almost confined to a few assertions, the value of which may be appreciated by the following quotations from his Paper on the subject.

“ The femoral artery may be tied with so much ease, so little suffering, and such perfect safety, that the laborious, distressing, and tedious procedure, which has lately been brought again into notice by a surgeon of Dublin, will probably soon return to the obscurity in which it has, very properly, been allowed to slumber.”

“ For my own part, having tied the femoral artery thirteen times for aneurism, and never having met with the slightest

symptom of an unpleasant nature from the operation, I shall certainly not deviate from the line of practice hitherto pursued."

I consider it only fair to Mr. Syme to place his observations upon record here, because a surgeon who has tied the femoral artery thirteen times for aneurism, must necessarily be looked upon as a great authority upon the point. However, as several surgeons in Dublin, whose experience is somewhat more extensive, and who have tied the femoral artery rather more frequently than thirteen times for aneurism, have not hesitated to "deviate from the line of practice hitherto pursued," and have employed pressure successfully in the treatment of aneurism, I shall merely remark, that, if Mr. Syme (after the numerous cases of the successful application of pressure which have been published), applies a ligature to the femoral artery in a fourteenth case of popliteal aneurism, without previously trying the effects of pressure, and it should prove a fatal one, I shall not envy his reflections.

I think, then, from what has preceded, we are warranted in concluding—

1st. That the arteries to which pressure is applicable, being far more frequently the subject of spontaneous aneurism than those to which it is inapplicable, compression promises to supersede the ligature in the great majority of cases.

2nd. Pressure has several obvious advantages over the ligature, being applicable to a considerable number of cases in which the ligature is contra-indicated, or inadmissible.

3rd. The treatment of aneurism by compression does not involve the slightest risk ; and even if it should fail, its employment not only does not preclude the subsequent operation by ligature, but renders the chances of the operation by ligature more favourable.

4th. Such an amount of pressure is never necessary as

will cause inflammation and adhesion of the opposed surfaces of the vessel at the point compressed.

5th. Compression should not be carried even so far as completely to intercept the circulation in the artery at the point compressed; the consolidation of the aneurism will be more certainly and more quickly brought about, and with less inconvenience to the patient, by allowing a feeble current of blood to pass through the sac of the aneurism.

6th. Compression by means of two or more instruments, one of which is alternately relaxed, is much more effectual than by any single instrument.

7th. Compression, according to the rules laid down here, is neither very tedious nor very painful, and can be maintained, in a great measure, by the patient himself.

8th. An aneurism cured by compression of the artery above the tumour, according to this method, is much less likely to return than where the ligature had been employed.

I have thus endeavoured, as concisely as possible, to enumerate the advantages which compression appears to possess over the ligature in the treatment of aneurism; and I have endeavoured also, as briefly as the nature of the subject would permit, to reply to the objections which have been urged against this method since its re-introduction in this city. But I regret to be obliged to add, that some of the objections to this plan of treatment appear to me to spring, not from an anxiety to develope the truth, but have their origin in a less praiseworthy source. Upon this point, however, I shall merely say, that if a mode of treating aneurism, which promises to supersede the Hunterian operation in a large number of cases, had been introduced, and proved to be not only practicable, but easy of application, by a surgeon of a London or Edinburgh hospital, we should have heard fewer of these objections.

ART. VI.—*Clinical Observations on the Diagnosis and Treatment of Syphilitic Diseases.* By JOHN C. EGAN, M. D., Fellow of the Royal College of Surgeons in Ireland, one of the Surgeons to the Westmoreland Lock Hospital.

[Read before the Surgical Society of Ireland, March 15, 1845.]

CONVINCED that it is the duty as well as the privilege of every hospital surgeon to lay before the Profession, either in a *viva voce* communication, or through the medium of the journals, the results which such an extensive field of inquiry must afford him, I have ventured to bring before the Society this evening, a few observations relative to a disease, in the investigation of which I have been engaged for now nearly two years in the Lock Hospital in this city.

It would be foreign to my present purpose to enter into the *quæstio vexata*, as to the origin of the venereal disease, whether it dates from the earliest period of the world, and is synonymous with some affections spoken of by the inspired writers, or whether it first developed itself at the close of the fifteenth century, and appeared amongst us as an importation from America: these are points which come more within the province of the lecturer, and are generally treated by him elsewhere, in an introductory address; nor is it my intention on this occasion to canvass the opinions of those (now, I am happy to say, not numerous), who, regardless alike of age, sex, temperament, or idiosyncrasy, and equally indifferent to, if not ignorant of the characters peculiar to the syphilitic chancre, assuming that the existence of a sore on the parts of generation is sufficient evidence of its poisonous nature, and not considering that the antidote is in itself a poison, if not administered in moderation, persevered in the blind and ill-directed exhibition of a favourite specific, till death, in many instances welcome, though oft times unexpected, released the victim of barbarous empiricism from a state at once loathsome to himself, and disgusting

and revolting to those around him.* Thirty years have now elapsed since the attention of the Profession was first directed to the necessity of a change in the treatment of the venereal disease; and if the researches of our distinguished fellow-countryman, the present Vice-president of this College, whose exertions in this department of surgery are not alone appreciated in Great Britain, but in every part of the civilized world which has been visited by British troops, were only valuable as far as treatment is concerned, I think he is entitled to the highest and most lasting praise of the Profession in particular, and mankind in general. I hope, however, to be able to shew that his theory, falsely so called, rests on a firmer basis than mere hypothesis.

But whilst we hail with delight, especially in this our variable climate, where the strumous diathesis characterizes by far the greater majority of its inhabitants, and where the bills of mortality are frightfully swollen by an almost incurable disease, accelerated, if not induced, in too many instances by the indiscriminate use of mercury, whilst we rejoice, I say, that these long-cherished opinions as to the infallible efficacy of a specific are fast giving way to a more scientific treatment of the disease, it is to be feared, that in endeavouring to avoid Scylla, on the one hand, many have suffered shipwreck on Charybdis, by running in the opposite extreme in the total exclusion of this valuable therapeutic agent. The curability of every variety of syphilis without the aid of mercury, in its primary, secondary, and tertiary forms, is now no longer a matter of dispute, the investigations of Mr. Carmichael, Rose, Guthrie, Ricord, Bacot, Mayo, Fricke, and a host of army and continental surgeons, too numerous to men-

* Dr. Christison, in his admirable work upon poisons, mentions a case which came under his notice, where gangrenous inflammation of the throat and fauces was produced by excessive salivation: a nearly similar case was under my care a short time since: both terminated fatally.

tion, all agree in the one and same opinion ; but the ascertaining of this fact does not by any means warrant us in raising a universal cry against it, much less in discarding altogether its use in practice.

“ In attempting,” says Sir George Ballingall,* “ a classification of these ulcers with a view to their treatment (the essential object of any classification), I would observe, that while I believe they will one and all recover without the use of mercury, yet I am persuaded, notwithstanding all that has been alleged to the contrary, that the cure will frequently be promoted by the moderate use of this mineral, and that its good effects will be most conspicuous in the Hunterian chancre, and in others in proportion as they approach nearer in character to this.” Biassed in favour of mercury, in the treatment of sores acquired by sexual intercourse, but having no pre-conceived opinions to support, I entered upon my duties as surgeon to the Lock Hospital, but after no considerable lapse of time did I perceive, that in thus subjecting to the influence of this mineral the patients committed to my charge, I was not alone employing an unnecessary remedy but inflicting a cruelty upon those that came under my care ; the cure of the primary sore was not much accelerated, and I had too often, at the termination of the course, to witness the melancholy *sequelæ* which presented, in œdema of the limbs, general anasarca, or other affections more immediately dependant on the primary disease, but exasperated by the means employed originally in hopes of a permanent cure ; and when, conjointly with this, I observed that four-fifths of those who died in the hospital fell victims to pulmonary phthisis, the greater part of whom either used or abused mercury, I was determined to relinquish my former prejudice in its favour, and give up its indiscriminate employment. In making these remarks, I would not be misunder-

* Outline of Lectures on Military Surgery, p. 467.

stood to apply them to all sores situated on the genitals, they are merely intended as referrible to those which are characterized more by negative than by positive symptoms, namely, the absence of induration or excavation, to any considerable extent, and which, as I shall presently shew, constitute by far the most extensive class which are met with in practice; and this leads me to the more immediate subject-matter of my communication to the Society this evening.

The number of sores that have fallen to my lot to treat since my first connexion with the hospital in April, 1843, the characters and complications of which I have accurately noted, has been 252; of these 144 were accompanied with gonorrhœal discharge. For sake of convenience I shall divide them into three classes.

The first class comprehends those which were unattended with induration, or any considerable degree of excavation, of which there were 219.

The second comprehends excavated ulcers, with indurated base and margin; of these there were 25.

And in the third I include phagedenic or sloughing ulcers; of these there were 8.

Of the first class, 79 were followed by constitutional symptoms,* some of which, however, were so trifling, that unless carefully looked for they would have escaped notice; they were as follows:

Pains resembling rheumatism, 10.

Increased vascularity of throat, accompanied generally with enlarged tonsils, and increase of size of the glands of the neck, 31.

* As the patients to whom I refer were all females, I am indebted to the use of the speculum, which I employed in the majority of them, in order to discover if any other sores, different from what I have enumerated as composing this class, existed; and I may here observe, that a considerable improvement has been effected in this instrument by our ingenious surgical instrument maker, Mr. Milikin, of Grafton-street.

Papular eruptions, 30. Pustular, 2.* Iritis, 8, in three of which a papular eruption was present at the same time, and in one a combination of both eruptions.

Of the primary sores, 80 put on the appearance of simple excoriations or abrasions of the mucous membrane; nevertheless 20 were succeeded by a mild description of secondaries, viz.:

Pains, 4. Increased vascularity of throat, 7. Papular eruption, 8. Iritis, 1. In none of these cases did I discover ulceration at the back of the pharynx, rupia, or nodes.

The average time required for the cure of the primary sore, without the internal employment of mercury, when bubo did not exist, was a little better than three weeks; with bubo, two months.

In 16 of these I used mercury; 3 were followed by a papular eruption, and severe pains in the joints.

The stay of the majority of this class was protracted, on an average, for two months after the cure of the primary sore, in consequence, as I mentioned, of gonorrhœal discharge (for the treatment of which, and not for the sore that co-existed, did they generally seek for admission into hospital); this gave me an opportunity of noting the description and frequency of constitutional symptoms that supervened. The local application I employed was black-wash, not on account of the mercury it contained, or any particular faith placed in this lotion more than any other, but because the patients, habituated to its continued use, appeared dissatisfied if this indulgence were withheld.

When I saw the primaries at an early period, I never failed to touch them freely with nitrate of silver, and I can safely say, that buboes were not more common after this particular line of treatment than any other which I have seen adopted. I had also the means afforded me of testing on a large scale, by inoculation, the identity or non-identity of the

* In both these cases the primary sores were all but healed on admission.

matter producing chancre and gonorrhœa; my results coincided completely with those of M. Ricord, as I have as yet been unable to produce in any case of gonorrhœa ulceration by that process.* As to whether these abrasions of the mucous membrane, or simple excoriations, which existed in many cases contemporaneously with the gonorrhœal discharge, were caused by the latter disease in its inflammatory or virulent stage, or by a specific virus, I do not from my present limited experience take upon me to decide, but certain it was, that many of them were succeeded by constitutional symptoms, where no other form of lesion could be discovered on the most minute examination. I am aware, however, to this it may be said, that the sores may have had full time to heal from the first accession of the disease till the period of their admission into hospital; and although I cannot deny the possibility of such an event, at the same time I can scarcely imagine that such would have taken place in every instance; and I must confess, for my own part, I am rather inclined to the opinion, that the matter of gonorrhœa, in its incipient state (a condition in which I never had an opportunity of testing it), is capable of producing this excoriation, which may be followed by a mild form of secondary symptoms, but not having at present any fixed data on which to ground this opinion, I am not in a position to lay it down as an ascertained fact; however, in referring to Mr. Evans's work on ulceration of the genital organs, some experiments will be perceived, performed by him, which tend to corroborate this impression.

That an indurated chancre and a gonorrhœa may co-exist in the same individual at the same time, frequent instances, verified by inoculation, have led me to believe; and here I may be permitted to remark, I cannot avoid thinking that the success which followed the mercurial treatment in those cases

* Dr. Marriott tested 85 cases of gonorrhœa; of these four yielded a specific pustule from inoculation: in those latter cases chancres were discoverable in the urethra.

of gonorrhœa reported by the late Dr. Wallace, was mainly owing to concealed urethral chancre, to which the attention of the Profession has since been directed by M. Ricord. How often in the wards of the Lock Hospital have I an opportunity of putting beyond any shadow of doubt, the total inefficacy of mercury in the treatment of gonorrhœa, in patients having an indurated chancre co-existing with that disease; the supervention of ptyalism is a sure criterion of a salutary change in the one, while its full establishment does not even check the progress of the other. "To compel," says Sir Astley Cooper, "an unfortunate patient to undergo a course of mercury for a disease which does not require it, is a proceeding which reflects disgrace and dishonour on the character of a medical institution."

I now pass on to the consideration of those primary ulcers which I have included in the second class, and which are characterized by an indurated base and margin,* and generally by a central excavation, giving the sensation of a piece of cartilage under the skin terminating abruptly. Of this description (the only one, as a general rule, in which I consider mercury essential) there were 24.

It will be perceived that this bears but a very small proportion to those described as constituting the first class, nevertheless Mr. Mayo asserts that the Hunterian chancre is still quite common in London. The average time required for the cure of these sores was four weeks, without bubo; with bubo, six weeks; of these, 5 were followed by secondaries, viz., pains and excavated ulcer of tonsil, 3; scaly eruption, 2; in these two latter the primary and secondary diseases were present on admission. I said that in the treatment of this, the true venereal chancre, I consider mercury indispensable, at the same time I am fully aware that even this form of ulcer has been cured without having recourse to this re-

* In taking matter from these ulcers for the purpose of inoculation, the point of the lancet, from a sudden jerk of the patient, has been turned more than once in coming in contact with their margins.

medy ; but if we take into consideration the length of time occupied before this effect is accomplished, and the liability, nay, the almost certainty of the supervention of secondary symptoms, I should think there are few, in this country at least, would risk their own professional character, or appear so indifferent to the personal interests of the patients committed to their charge, as to hesitate for a single moment as to the most judicious line of treatment in the free administration of mercury. In this, as in the former class, I make use of the nitrate of silver as an escharotic to the substance of the ulcer. "If," says M. Ricord,* "we calculate the cure of a chancre from the day the ulcer has cicatrized, without troubling ourselves about what may take place after, it will be sometimes apparently quicker by the simple treatment without mercury, and in the hospitals the patients will be a less time under treatment ; but if we date the cure at the period when all induration has disappeared, we shall find the difference enormously in favour of the mercurial treatment, the induration continuing in the first instance an indefinite period, and giving rise much more frequently to secondary or constitutional symptoms. I have recourse," he adds, "to mercury whenever a certain degree of induration accompanies a chancre, when it does not speedily cicatrize, or when the induration remains after its apparent cure." I cannot, however, altogether subscribe to M. Ricord's opinion, as to the persevering in the use of mercury till all induration disappears, as to accomplish this, in many instances, ptyalism should be kept up for some weeks, which, independent of the reluctance evinced to such a mode of procedure on the part of the patient, does not, I am inclined to think, possess any decided advantages. In the 24 cases which I have mentioned, induration disappeared in 8 after moderate salivation ; in the remaining 16 it remained for

* Pages 578-9.

a considerable time after the effects of mercury had worn off; nevertheless I did not perceive any ill effects follow, although many of them I detained longer than I would otherwise have done, anticipating such an occurrence.

As various topical applications will give the character of induration even to the simple sore first described, it is necessary, in order to decide as to the real nature of the ulcer, to see it before any such applications have been resorted to; and as other forms of eruption become scaly at their termination, they may, if seen for the first time at that period, be easily mistaken for that which is said to be peculiar to this, the Hunterian chancre. "Inattention to this leading feature in the appearance of eruptions," says Mr. Carmichael, "has led many men, even of experience, to confound one form of venereal disease with another, and to deny that there are any essential or specific distinctions between them." The syphilitic ulcer of the tonsil is graphically described by Hunter "as a fair loss of substance, part being dug out, as it were, from the body of the tonsil; it has a determinate edge, and is commonly very foul, having a thick, whitish matter, like a slough, adhering to it, and not admitting of being washed away." The three cases which came under my notice, and where I had an opportunity of witnessing the primary ulcer, agreed in every particular with the above description. In a paper published in the second volume of the Transactions of the Provincial Medical and Surgical Association, by Dr. Greene of Bristol, on the cure of syphilis without mercury, speaking of the constitutional affections, he says: "The next constitutional affection I have to mention was sore throat; this symptom occurred in four cases, in three of them conjoined with cutaneous eruptions. This affection of the throat was the same in all cases, and presented some characters which it appears to me are peculiar to syphilitic disease, though some authors think this ulceration does not belong to syphilis. The tonsils are at first enlarged; there is a superficial ulceration extending over

these glands, and passing back to the pharynx, and anteriorly extending over the palatine arches; the mucous membrane looks red and granulated; it presents the appearance which the granular conjunctiva does on the eye-lids. After a short time, a week or more, the inflamed and ulcerated surface becomes covered with a thin layer of coagulable lymph, which adheres to the part; the voice is rough, the throat feels sore, and is painful during the act of deglutition; in some instances patches of this kind of ulceration extend to the mouth, giving an aphthous appearance to the part. As this is the form of ulceration which I have seen in most cases of syphilis, where mercury had not been given, I am led to consider it as the true syphilitic ulcer of the throat. "This disease of the throat," he adds, "has the peculiar characters abovementioned, and is therefore quite a distinct affection from the sloughing, excavated ulcer of the tonsil, which has usually been considered as the venereal sore throat." It is to be regretted that in this description Dr. Greene does not state what was the nature of the "cutaneous eruption" present, as the form of ulceration, and the granulated appearance at the back of the pharynx to which he alludes, I have met with very frequently where a pustular eruption co-existed, but in none of the cases which I was fortunate enough to see at an early period did I discover such an appearance of the throat consecutive on the Hunterian chancre. The preparation recommended by M. Ricord, where the primary and secondary symptoms are present at the same time, is the proto-ioduret of mercury, in combination with conium, and from some experience in its employment, I am of opinion that it deserves a decided preference in cases of this description, for obvious reasons; in others the common blue pill appears as sufficient and manageable a preparation as any that could be selected. As this is not by any means a common form of ulcer, and as we have not often an opportunity of observing the primary and secondary forms of this disease at the same time in the same

patient, I shall offer no apology for introducing here the outline of a case which was lately under my care.

CASE I.—*Indurated Ulcers; Inoculation; Result negative.*

Anne Brennan, æt. 17, of temperate habits, admitted December 4. States that twelve months since she contracted a gonorrhœa, which disappeared in six weeks under treatment; from that time to the present she has continued free from any disease. On admission, two ulcers of a circular form, excavated in the centre, with well-marked indurated base and margins, are perceptible on the labia; at the junction of the skin with the mucous membrane a tenacious matter intimately adheres to their surfaces: the ulcers, she says, first made their appearance about a month ago, and that she never suffered the least pain or uneasiness from them; during that period they have been very gradually increasing in size, and previous to admission she took six pills, but without perceiving any effect. About a fortnight since an eruption, unpreceded by any degree of fever, shewed itself, first on the forehead, then on the back of the neck, and subsequently engaged the greater part of the body; it agrees in every particular with the scaly form of the disease, and states that it has not altered the characters which it originally assumed: shortly after, she first experienced a sense of soreness in the throat, which has been gradually increasing, and which at present causes great pain in swallowing. On examination the tonsils appear larger than natural, and at the posterior part of that on the right side an excavated ulcer, to which a quantity of mucus intimately adheres, and which cannot be wiped away by lint wrapped around a probe, is perceptible. Pulse 80; bowels confined.

Bolus Cathart. et, post horas tres, Haust. purgans.

Inoculated the upper part of thigh with matter from the ulcers, which were afterwards touched with Nit. Argenti.

Pil. Proto-Iod. Hydrarg. i. ter in die.

December 27th. The cavities in the ulcers have slightly filled, and they have assumed a healthy appearance ; induration still remains ; swallows with much greater ease ; touched the ulcer at the posterior part of the tonsil with the acid nitrate of mercury.

31st. Chancres very much contracted in size, and have filled up considerably ; the induration has to a great extent left their margins ; throat much improved, and can swallow without any difficulty ; no perceptible alteration in the colour of the eruption, but no new spots have presented themselves for the last few days.

January 3rd. Gums tender, with mercurial fœtor ; induration fast leaving the ulcer, the centres of which are now on a level with the circumference ; eruption fading, throat almost healed.

Repetat. Pil. ii. quaque nocte.

10th. Chancres completely healed, no induration remaining ; eruption, with the exception of one or two small spots, has entirely faded ; tonsils of their natural size, and the ulcer which formerly occupied the posterior part of the right one is no longer perceptible.

Omit. Pil. Garg. Alum.

27th. Discharged cured.

CASE II.—*Inoculation, with positive Result.*

Susan Tuthill, æt. 19, of intemperate habits, but healthy appearance, admitted February 4, 1845. Three years ago contracted gonorrhœa, which was followed by buboes, for the treatment of which she was admitted into one of the general hospitals, and was discharged cured in two months. Eight months ago contracted the disease again, which disappeared in a few weeks, without having recourse to any particular line of treatment ; being since constantly in the way of infection, she cannot say with certainty when the present disease originated. An excavated ulcer, about the size of a split pea, with indurated margins and

base, is perceptible on the inner surface of the right labia, near the junction of the mucous membrane with the skin; a profuse vaginal discharge is also present: inoculated the upper part of the thigh with matter taken from the ulcer, which was afterwards freely touched with nitrate of silver. Bowels confined.

Bolus Cathart., et, post horas tres, Haust. Purgans.

Pil. Proto-Iod. Hydrarg. i. ter in die.

February 8th. The characteristic pustules have made their appearance on the part inoculated, to which the caustic was freely applied. Chancre has assumed a healthier appearance.

16th. Gums tender, with mercurial foetor; the centre of the sore is now nearly on a level with the edges, which have lost, to a great extent, their induration.

Repetat. Pil. ii. quaque nocte.

19th. The ulcer has filled in considerably, and very little induration is perceptible in the margins; the pains have left the extremities; ptyalism fully established.

Omit. Pil. Garg. Alum. Flour and milk.

24th. Ulcer completely healed, a very slight degree of induration remaining; complains of pains in the arms and thighs. Ordered balneum tepid.

March 10th. Discharged cured, all induration having disappeared.

Between the papular and phagedænic forms of eruptions the pustular has been described as resulting from a particular form of primary ulcer, but as my experience does not warrant me in describing it as a particular form of disease, I shall, for the present, refrain from offering any observations on it, contenting myself by giving the history of a case, the only one in which I was able to contrast, at the same time, the appearance of the primary with that of the secondary disease.

CASE III.—*Ulcer with elevated Margins, Centre slightly excavated, and even without Granulations; Inoculation with positive Result.*

M. B., æt. 28, formerly a married woman, her husband dead three years; has been in the constant habit of indulging in ardent spirits, to the amount of twelve glasses at a time, without being completely incapacitated, for the purpose, as she expresses it, of “drowning care.” Had three children by her husband, one now living. Has, since her husband’s death, been cohabiting with a gentleman, by whom she has had one child. Five months since, in consequence of some dispute having arisen between them, they separated; she then turned on the streets, and although from that time to the present she has been constantly in the way of getting disease, she remained free from any form of it until about three weeks ago, when she observed for the first time a sore on the inner part of the right labia, but which caused her no uneasiness. About a week afterwards a discharge, preceded by a scalding in passing water, was observable from the vagina, after which four or five other small sores appeared on the opposite labia. Since the first accession of the disease she has not gone in the way of additional infection. Within the last week a pustular eruption appeared in spots, first upon the abdomen, next upon the upper part of the thighs, and subsequently on the back of the neck; a few spots are likewise interspersed through the hair. On examination four or five small ulcers, varying from the size of a pin’s head to that of a split pea, are perceptible on either side of the labia; the one which she states first appeared is the largest and best defined; the margins are elevated above the centre, which is even, and destitute of any granulations; no induration accompanies it; the smaller ulcers preserve the same character in miniature. Complains of soreness of throat, which, upon examination, appears more vascular than natural; there is also a dry and granular appearance of the back

of the pharynx, but no apparent ulceration; matter taken from the best defined ulcer was inoculated on the upper part of the thigh. Touched the ulcers with the nitrate of silver.

℞ Potassii Iodid. gr. v. in Decoct. Sarsaparillæ, ter in die.

March 10th. Pustular spots larger; sores below contracting in size.

17th. Inoculated part presents the characteristic pustule, which was cauterized with nitrate of silver. Eruption for the most part desquamating, with the exception of one large spot in the left iliac region. Complains of pain in the right hypochondrium, which shoots up to the shoulder of the same side. Percussion over the region of the liver elicits a dull sound, and that viscus is perceptibly enlarged.

Repetat. Decoct. c. Hyd. Potassæ, Emp. vesicat. lateri dol. Balneum tepid.

A superficial slough covers the back of the pharynx, which is extremely granulated in appearance.

Garg. Chlorid. Calcis.

19th. Sores have almost healed; the eruption continues to desquamate; pain has left the side and shoulder since the application of the blister; inflammation has disappeared from the throat and the posterior part of the pharynx; looks much healthier than before.

Pergat.

21st. Throat well, sores healed, eruption fading.

Omit. Garg.

The last class of primary ulcer which I have enumerated is the phagedænic, or sloughing sore; of these, eight have come under my notice. I will not detain the Society by entering into any very minute description of this most destructive form of ulceration, as I have recently, in the *Dublin Journal* for January last, laid a few observations on the subject before the Profession. It differs, however, in many par-

ticulars from any other form of the disease. It is not, like the Hunterian chancre, attended with any induration of the base or margins; neither were any of the ulcers which came under my notice excavated to any considerable extent: its progress is in general much more rapid than that of any other sore occurring on the organs of generation, and it gives rise to a train of constitutional symptoms of a much more inveterate nature than any hitherto described.

In this description I confine myself to that class of ulcer which *commences* as a phagedænic sore, as I am aware others may assume that character from neglect, local irritation, or frequently from a small quantity of mercury, as I had lately a case under my care, which became phagedænic from the internal administration of ten grains of blue pill. In every instance that came under my notice, the disease was made much worse either by the internal use of mercury, or by its external application. It has been affirmed that the difference in the symptoms of this class, arises altogether from the constitution of the patient, and is not at all owing to any peculiarity of infection; and in confirmation of this opinion is cited the case of the celebrated Lisbon opera dancer, detailed by Dr. Ferguson in the fourth volume of the *Medico-Chirurgical Transactions*, who having infected, as he states, a young officer, “continued on the stage for many months afterwards, occasionally infecting others, without anything extraordinary, as far as I could learn, in the nature of the symptoms.”

As this case is entered into more minutely in a recent publication,* I shall not occupy the time of the Society by discussing still further its merits, or say how far it may tend to invalidate the doctrine of a specific poison, my object being, for the most part, limited to an enumeration of facts occurring under my own immediate observation. The first case that attracted my attention, and has since led me to exa-

* *Clinical Lectures on Venereal Diseases*, by Richard Carmichael, M. R. I. A.

mine particularly into the history and symptoms of this disease, I shall briefly relate.

Dorah Moore, æt. 29, unmarried, of intemperate habits, admitted July 11th, 1843. The whole of the back of the pharynx is engaged in one extensive slough; the voice is nasal; complains of great pain and difficulty in deglutition; never discharged any crusts from the nose, the bones of which appear intact. On careful inquiry into the history of the case, she states as follows: That she was first admitted into the hospital about seven years ago, under the care of my late father, for a sore that occupied the left labia, that it commenced in the form of a "pimple," which in a day or two broke, and rapidly spread into a large sore, the discharge and odour attending it being extremely offensive; that alarmed at the rapidity of its increase, and suffering from excessive pain consequent upon it, she lost no time in seeking admission into hospital. Fermenting poultices were had recourse to without intermission for nearly six weeks, the greater part of which time she was confined to bed from inability to walk. She was discharged cured: her entire stay in hospital being eight weeks. She continued free from any disease for three years, when she again applied for admission with sore throat, which, from her description appears to have been ulceration at the back of the pharynx; her throat at that time was cauterized with solid nitrate of silver, and she was put on the use of hydriodate of potash, in combination with the compound decoction of sarsaparilla. She had since three relapses of the sore throat, for which she was treated in this hospital. Two years ago was here for a large rupial spot about the size of an ordinary saucer, the cicatrix of which is still perceptible between the scapulæ; at that time also, she had a node on the anterior part of the left tibia, and acute inflammation of the knee of the same side, which yielded to the usual remedies adopted in these cases. She is at present under my care for a tuberculated condition of the face, a

form of disease, I may remark, the most intractable and most difficult of cure of any that falls to my lot to treat. She never used mercury in any form.

The foregoing case is in itself an epitome of the history of the phagedænic form of syphilis ; in the first instance we have the phagedænic ulcer, with its appropriate characteristics ; and then following, in slow but sure succession, its usual *sequelæ*, viz., extensive ulceration at the back of the pharynx ; rupia ; nodes ; inflammation and swelling of the knee, resembling acute synovitis ; and, lastly, a tuberculated condition of the face. From never having met with a case of caries of the nasal bones, I am inclined to think that it is not one of its regular attendants, but owes its existence rather to the combined effects of mercury, and the disease.

CASE II.—Anne Clarke, ætat. 26, of tall, slender make, and temperate habits, admitted July 25th, 1843, was never infected with the disease till about six weeks ago, when she contracted a gonorrhœa ; within the last few days she observed a sore which obliged her to seek for medical advice ; she took some pills while out (supposed to be mercurial), without producing any perceptible effect. An ulcer occupies the inner surface of the left labia pudendi, commencing about its centre, and extending to its inferior or perineal margin, where it takes a direction outward, in the fold between the nates and thigh ; it runs as far back in the vagina as can be seen by separating the parts ; the surface is covered with a dark-brown tenacious matter ; the margins are unattended with induration, irregular, undermined, are surrounded with an inflammatory areola ; a strong fœtor is perceptible on the approach of the patient. Pulse 95 ; thirst insatiable ; bowels confined ; says she has not slept for the last three nights. Ordered

Haust. Purgans ℥ii. c.

Liq. Ant. Tart. ℥ss.

Statim Cataplasma. Panis part. dol. Pil. Muriat. Morphiæ gr. ss. quaque nocte. A quart of milk daily.

July 28th. Ulcer has spread considerably since last report ; the surface, however, is looking cleaner. Pulse 80. Touched the surface freely with strong nitric acid, after which a poultice was directed to be applied ; ordered decoction of sarsaparilla, with dilute nitric acid.

30th. Surface much cleaner ; suffered some pain from the application of the caustic, which was repeated to-day ; poultice to be continued.

August 1st. The spreading process appears to be quite arrested ; the surface clean, but no granulations are perceptible ; foetor very much diminished, did not use the caustic, but ordered a dressing consisting of equal portions of Peruvian balsam and castor oil. Under this mode of treatment the ulcer healed rapidly, when, on the 12th of August, an eruption was ushered in by the usual febrile symptoms, which in a few days assumed the character of *rupia prominens*, so well described and delineated by Bateman ; the primary ulcer at this time had nearly cicatrized. Omit decoct. c. acid. Ordered Hydriodate of Potash, 5 grains, in Decoct. Sarsaparillæ C., ter in die. She now also complains of soreness of throat ; on examination, a superficial slough is seen covering the back of the pharynx, to which a yellow, tenacious matter intimately adheres, and which cannot be wiped away by lint wrapped round a probe. Ordered Garg. Acid. Muriatic. The eruption is confined to the back of the neck, two small spots have appeared on the right arm.

August 15th. The ulcers have increased in size, those on the neck are about the size of half-a-crown, and covered with blackish, thick crusts ; the ulceration at the back of the pharynx has extended deeper ; the dose of hydriodate of potash to be increased from five to ten grains, three times a day ; touched the throat with the acid nitrate of mercury, a preparation, I may here remark, preferable in such cases to the strong nitric acid, as the fumes of the latter intercept

the view of the operator, and first introduced into this country by my respected colleague, Dr. Byrne.

August 21st. The crusts have fallen off, and large ulcers of a peculiar appearance are discernable beneath ; one on the neck and another on the arm have already commenced to heal from the centre. There is nothing worthy of note from this, till she was discharged on the 28th of September ; the sores healed rapidly, and the ulceration of the throat was completely arrested ; she got some tepid baths previous to her discharge, as she complained of pains in the shoulders and knees. No nodes appeared while in hospital.

As I have already trespassed much too far upon the time and, I fear, the patience of the Society, I shall not adduce any further cases, but shall briefly refer to the treatment of the constitutional symptoms, and offer but a very few concluding remarks.

“ Although the character of the primary sore,” says Mr. Rose,* “ may, like that of any other ulcer, be modified by a variety of causes, it is not easy to suppose that these can also account for the great difference in the secondary symptoms. Can the influence of constitution alone,” he inquires, “ enable the same poison to produce a papular eruption in one individual, and a pustular, an exanthematous, or a scaly eruption in another ? This, at least, does not happen in any other disease arising from a morbid poison ; we may hope, therefore, although the inquiry is a difficult one, that some useful distinctions with respect to the venereal poison will in time be made.” “ Whether,” observes Mr. Carmichael, “ the different groups of venereal symptoms which congregate together, arise from different poisons, or from other causes not very obvious, is, in a practical point of view, of no moment whatsoever, provided we make ourselves acquainted with the characters and dispositions of primary affections, and also with the groupings of constitutional symptoms, assigning to

* Medico-Chirurgical Transactions, vol. viii.

each that mode of treatment which experience has indicated to be the most judicious."

Independent of the constitutional symptoms which I have enumerated, as succeeding to the primary sores which I had an opportunity of seeing, I have treated 150 cases of secondaries where I was unable to determine the nature of the primary affection; with the exception of iritis, and a few other tedious cases, I did not resort to the use of mercury, but treated them with the hydriodate of potash in combination with the compound decoction of sarsaparilla; the average time taken to accomplish a cure was two months, which is a much longer period than if mercury had been employed; the relapses, however, if I except a few sloughing ulcers of the throat, were far less frequent than formerly, when mercury had been employed. To Dr. Williams of St. Thomas's Hospital, are we indebted for the introduction of the iodide of potassium into this country, which no doubt forms a valuable addition to our Pharmacopœia, and is highly valuable, especially in the tertiary forms of syphilis. In 1814 it was the habit in Sweden to heal all primary sores by inunction, the average number of tertiary affections of the bones being 54 per cent.; when this treatment was changed to a more limited use of that mineral, the number was reduced to $6\frac{1}{2}$ per cent. Mr. Rose states, that one out of every three of the sores which was treated without mercury was followed by some form or other of constitutional affection, this was in most instances mild, and sometimes so slight that it would have escaped notice, if it had not been carefully sought for. This very nearly coincides with the results of my cases. Mr. Guthrie says, he has reason to believe that almost all the protracted cases would have been cured in one-half, or even one-third of the time, if a moderate course of mercury had been resorted to after common applications had been found to fail.

My friend, Mr. Wilde, states, that in the great hospital of Vienna, for the year 1840, no mercury whatsoever was em-

ployed in the treatment of primary venereal ulcers. That 1 in 19 had secondaries, but that they were mild, and generally of the papular form ; rupia, diseases of the bones, testes, &c. being seldom seen ; and he remarks, had mercury been employed for the cure of the indurated chancre of Hunter, we may infer that the proportion of primary followed by secondary symptoms, would have been still further reduced. Phagedænic disease, either in its primary or secondary state, was a rare occurrence, hence caries of the bones of the nose was not met with.

For important information, collated principally from German authorities, I beg leave to refer to Dr. Graves's *Clinical Medicine*, lately published.

I have now, Sir, taken a rapid glance at the primary, secondary, and tertiary forms of syphilis which have come under my observation in the Lock Hospital, and having enumerated the characteristic symptoms of the disease, and endeavoured to point out, what appears to me from experience the most eligible treatment, I would recapitulate the leading points.

1st. I have observed the simple superficial ulcer, unattended with indurated margin or base, give rise to a papular eruption, pains resembling rheumatism, increased vascularity of the throat, generally accompanied with enlarged tonsils. In this form I have never witnessed the occurrence of rupia, nodes, or ulceration of the back of the pharynx : in this class, which were for the most part treated without mercury, constitutional symptoms occurred far more frequently, but were of a milder description than in those where the opposite plan of treatment was adopted. When topical applications fail, mercury is resorted to for the purpose of accomplishing a cure.

2ndly. That strong presumptive evidence has been afforded, that the matter of gonorrhœa, in its incipient stage, is capable of producing a mild form of secondary symptoms ; but not having been able to substantiate this opinion by the

process of inoculation, I cannot, as far as my experience goes, lay it down as an ascertained fact.

3rdly. That the excavated ulcer with indurated margins and base, commonly described as the Hunterian chancre, has, in my limited number of cases, been succeeded by a scaly eruption and excavated ulcers of the tonsils; and that in those cases alone mercury deserves the name of a specific.

4thly. That the phagedænic ulcer, where it has existed *ab initio*, does not owe its characters to any peculiarity of constitution, but to a specific virus, as is evinced in the dissimilarity and inveteracy of the secondary and tertiary symptoms; and that in such cases mercury is decidedly injurious. And, lastly, that all the secondary forms of syphilis, with the exception of iritis, are curable without the aid of mercury; the cure, however, is much more protracted, but relapses far less frequent.

In the foregoing remarks I have propounded no theory, but have given a faithful and unvarnished statement of facts which have forced themselves upon me, and which, I must confess, have run counter to the principles of my early education; and any deductions which I have drawn have been based upon these facts, and are the results of frequent observation, and matured consideration. I cannot be accused of having originally imbibed opinions which I was determined to support, as the work which bears more immediately upon my investigations, did not fall into my hands till a very few months since, so prejudiced had I been against its contents; much less can I be taxed with any personal interest to forward the views of the writer, as I do not even possess the pleasure of his acquaintance.

I have brought forward this subject, not for any novel opinions that may be found contained in it, but anxious to add my mite to the fund of information already available, and feel confident that any light, however feeble, which may tend to unveil the mysteries of this Protean malady, will not be despised by the Profession.

ART. VII.—*Observations on a peculiar Form of Disease of the Heart, attended with Enlargement of the Thyroid Gland and Eyeballs.* By ROBERT L. MAC DONNELL, Licentiate of the King and Queen's College of Physicians, and of the Royal College of Surgeons, Ireland.

THE two following cases present examples of a peculiar form of cardiac disease, unlike any other with which I am acquainted, either from my own experience or from the descriptions of writers on diseases of the heart, and in their complications they exhibit such striking singularities, that I have deemed them worthy of being laid before the Profession.

I may, however, be wrong in supposing that this disease is quite unknown to other physicians, though I have not seen or heard of its being described by any writer, and amongst my own acquaintances I know of but two physicians who are fully acquainted with the form of disease I am about to detail: I allude to Drs. Graves and Stokes, who have both had under observation the first case to be met with further on, and the second case has been twice under the observation of Dr. Stokes, to whom I can confidently refer for the accuracy of the account I have given of it.

To Dr. Graves is due the merit of having first directed attention to what I consider to be the incipient stage of this form of disease, and it is to be regretted that in the edition of his admirable work on Clinical Medicine, he did not furnish the Profession with the termination of the cases I am about to quote, which were first detailed in one of his Clinical Lectures, published in the Medical Gazette.

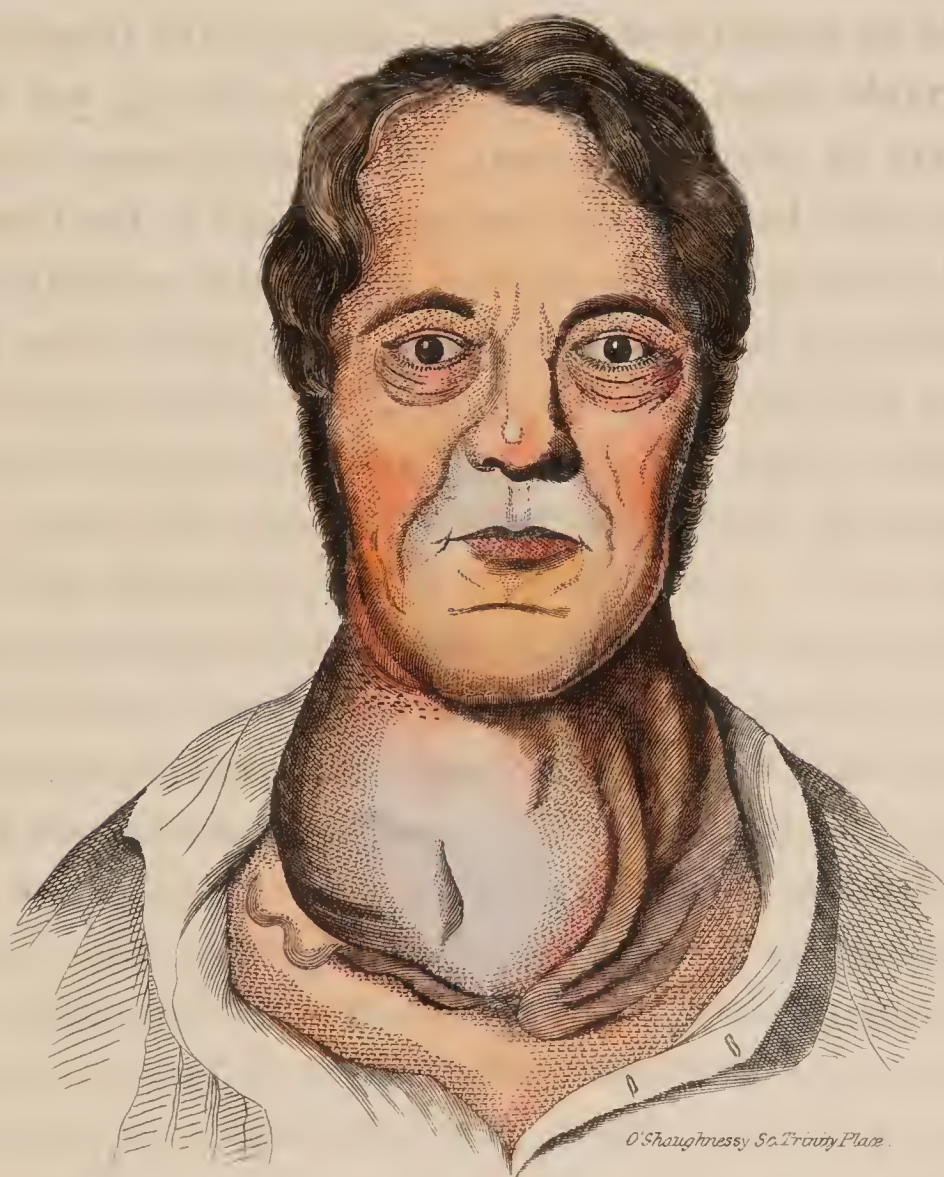
“ I have lately seen (he says), three cases of violent and long-continued palpitations in females, in each of which the same peculiarity presented itself, viz., enlargement of the thyroid gland. The size of this gland, at all times *considerably greater than natural*, was subject to remarkable variations in every one of these patients. When the palpitations

were violent, the gland used notably to swell and become distended, having all the appearance of being increased in size, in consequence of an interstitial and sudden effusion of fluid into its substance. The swelling immediately began to subside as the violence of the paroxysm of palpitation decreased, and during the intervals the size of the gland remained stationary. Its increase of size, and the variations to which it was liable, had attracted forcibly the attention both of the patients and of their friends. There was not the slightest evidence of anything like inflammation of the gland. One of these ladies, residing in the neighbourhood of Black Rock, was seen by Dr. Harvey and Dr. Stokes ; another of them, the wife of a clergyman in the county of Wicklow, was seen by Sir Henry Marsh ; and the third lives in Grafton-street. The palpitations have in all lasted considerably more than a year, and with such violence as to be at times exceedingly distressing ; and yet there seems no certain grounds for concluding that organic disease of the heart exists. In one, the beating of the heart could be heard, during the paroxysm, at some distance from the bed—a phenomenon I had never before witnessed, and which strongly excited my attention and curiosity. She herself, her friends, and Dr. Harvey, all testified to the frequency of this occurrence, and said that the sound was at times much louder than when I examined the patient, and yet I could distinctly hear the heart beating when my ear was distant at least four feet from her chest ! It was the first or dull sound that was thus audible. The sudden manner in which the thyroid, in the above three females, used to increase and again diminish in size, and the connexion of this with the state of the heart's action, are circumstances which may be considered as indicating that the thyroid is slightly analogous in structure to the tissues properly called erectile. It is well known that no part of the body is so subject to increase in size as the thyroid gland, and not unfrequently this increase has been observed to be

remarkably rapid, constituting the different varieties of bronchocele or goitre. The enlargement of the thyroid, of which I am now speaking, seems to be essentially different from goitre, in not attaining a size at all equal to that observed in the latter disease. Indeed, this enlargement deserves rather the name of hypertrophy, and is at once distinguishable from bronchocele by its remaining stationary, just at that period of its development when the growth of the latter usually begins to be accelerated. In fact, although the tumour is very observable when the attention is directed to it, yet it never amounts to actual deformity. The well-known connexion which exists between the uterine functions of the female and the development of the thyroid observed at puberty, renders this affection worthy of attention, particularly when we find it is so closely related by sympathy to those palpitations of the heart which are of so frequent occurrence in hysterical and nervous females.”—GRAVES’ *Clinical Medicine*, p. 674.

In the foregoing cases we are presented with what I conceive to be the commencement of the same disease, which, in the following instances, was productive of so much distress, was attended with such unusual complications, and exhibited such obstinacy to all forms of treatment. I may also mention, that M’Keon was under the care of Drs. Graves and Stokes, on various occasions, and that he has been also closely observed by myself for some years past, and has latterly (along with his son), been under my care; he is a man of the strictest veracity and highest principle, and every part of the account he has given of his disease may be implicitly relied on.

CASE I.—John M’Keon, æt. 55, a Bible-reader, in the employment of the City Mission Society, but formerly a weaver; he was always a man of very temperate habits; accustomed to hard work, and of great perseverance. It is, he thinks, owing to this latter quality, that his health first became injured, for he used frequently to over-exert himself to accom-



Case of John M^c Keon aged 55.

plish whatever he took in hands; notwithstanding, he enjoyed good health, till about nine years ago, when he began to suffer from indigestion: his food was passed in an almost unaltered state; he became subject to prolapsus ani, and was occasionally attacked with bleeding from the protruded gut. In the year 1838, he was greatly exhausted with diarrhœa, which lasted for four months, obliging him to go to stool fifteen or sixteen times a day. Towards the close of this attack, his bowels became more confined, and the stools now acquired a black colour, and highly offensive odour, at times alternating with profuse discharges of blackish flakes, like tea-leaves. He never had any hæmatemesis, or bleeding from the lungs or nose. It was about this period that he first began to suffer from palpitations, unaccompanied by pain, and with inability to lie on his left side. His pulse was never under 120, and was at times so high as 200; of this he is quite positive, having been in the daily habit of counting it for several years past.

Shortly before the palpitations became so very distressing, *he noticed a small tumour in the region of the thyroid gland, which gradually increased to its present size, without causing any pain or other inconvenience, except a feeling of constriction, or tightness at the part, which interfered somewhat with the use of the voice in the performance of his duties.* He was also tormented with excruciating headaches, and a throbbing in the head; his sleep was always bad, being disturbed by the pulsation in his head, and by frightful dreams, which for some years rendered anything like refreshing sleep a complete stranger to him.

When he first came under Dr. Graves's care he complained chiefly of violent palpitations, and of great debility, so great as to be unable to walk across the ward; pulse 100, and weak; enormous action of the heart, particularly of the right ventricle; no increase of dulness; nor was there any abnormal sound accompanying those of the heart, which were natural,

except for their great sharpness and loudness. The respiration was quite good in both lungs. The two lower thirds of the neck was occupied by a soft flabby tumour, corresponding to the lobes of the thyroid body, the left portion of the tumour being much larger than the other. The whole tumour measured sixteen inches and a half around its most prominent part to the sixth cervical vertebra. On the hand being placed over it, a remarkable thrill was communicated, particularly on the left side, quite similar to what is felt in aneurismal varix. This thrill was evidently independent of any motion communicated to the tumour from the carotid arteries, and was manifestly generated in the growth itself. On placing the stethoscope over the tumour, an intense musical bruit was heard; and this was likewise heard over the carotids, though in these situations it was less musical. *He had no stridor or difficulty of swallowing.*

When in hospital, on that occasion, there was nothing remarkable noticed in the eyes. He was treated with prussic acid, Lugol's mineral, iodine ointment to the tumour, belladonna plaister, digitalis blisters, &c., from which it will at once appear to the reader, that various opinions as to the nature of his malady were entertained whilst under observation. From amongst these, he experienced relief only from the prussic acid and belladonna plaister; the other remedies, so far from relieving him, greatly increased his sufferings.

He left the hospital somewhat improved, and went to the country, where his strength increased, though the violent palpitations continued. For the next four or five years, his state remained pretty much the same as above, but during this period, *the eyeballs were observed to become much increased in size, and to have assumed a peculiar wild and staring appearance.* This alteration, though quite apparent to himself and his family, *was unaccompanied by any pain, dimness of vision, or other inconvenience.* The eyes continued gradu-

ally increasing till about two years ago, when they ceased to enlarge, and remained stationary for a year or so. During the time they were increasing, the thyroid gland retained its former size and characters, and the heart's action continued as distressing as before; but when the eyeballs ceased to enlarge, the consistence of the tumour in the neck became much firmer, and now, for the first time, the heart became more tranquil, and he began to experience some relief from his long sufferings.

It is also worthy of remark that at the time he was most emaciated, and of course when the eyeballs should have been sunken and concealed, it was then they were most protruded, most staring, and *apparently* most enlarged! He was seen by Dr. Stokes, myself, and others, and this inexplicable anomaly forcibly attracted my attention. For the last year his improvement has progressed uninterruptedly. His strength has been daily increasing, the eyeballs have also much diminished, though they still retain some of the peculiar staring; the enlarged thyroid has become more solid, and the heart's action is now tranquil and unaccompanied by any abnormal sound.

This day, April 2nd, 1845, I again saw M'Keon, along with my friend, A. Orr, Esq., Surgeon to the City of Dublin Hospital, when, after hearing from him a satisfactory *resumé* of his case, we examined the thyroid gland, which still presented the peculiar thrill of aneurism by anastomosis. Every variety of bruit was heard in it, according as the stethoscope was moved from one spot to another. The heart's action and sound were quite natural; the pulse full, regular, soft, and only 80, though he had walked nearly two miles, and was somewhat heated.

CASE II.—A woman, aged 22, of low stature, and leucophlegmatic habit, consulted me about a year ago. She stated that up to the age of fifteen she enjoyed good health; that then the catamenia first appeared, and that ever since she

has suffered from leucorrhœa, though the menses had always been regular till within a few months before she came to me. About the same period she began to suffer from violent headaches, particularly in the morning: these never became more severe at the menstrual period. Palpitations also now set in, and she suffered from great lightness of the head, amounting almost to fainting, but what caused her most anxiety was *the manifest enlargement of the eyeballs, and a peculiar staring appearance they assumed*, which attracted the attention of all her friends, and on more than one occasion induced them to think that she had become maniacal.

May 30th, 1844. She complains now of the violent palpitations and headach, but has no weight or uneasiness about the præcordial region. She lies almost always on the left side; when she turns on the right she experiences a sensation as if the heart had moved from the left to the right side. She does not now suffer any pain during the continuance of the palpitation, but until lately they were always accompanied by an acute lancinating pain, shooting backwards through the cardiac region; nor does she at present suffer from flashes of light before the eyes, headach, noise in the ears, or bleeding from the nose. *The eyesight is very good, though the eyeballs are remarkably prominent, and are unnaturally staring.* This is quite perceptible to herself, and their great size causes her much anxiety, though she has never suffered any pain in them. Her sleep is not disturbed by unpleasant dreams. Tongue clean; appetite good; stomach occasionally sick; bowels regular; pulse 120, weak, but regular; respiration 24. The action of the heart is excessively strong, and its pulsations are visible all over the cardiac region, but much more perceptible to the right of this space, along the edge of the sternum, where there is a distinct fremissement. There is no bruit de soufflet, except towards the origin of the aorta, whence it extends up along the course of this vessel for a few inches, accompanying the first sound. The sounds

of the heart are heard all over the front and back of the chest, but in no situation, except that just mentioned, are they accompanied with a bruit de soufflet. No thrill or soufflet in the arteries of the neck, upper extremities, or of the abdomen. There is no abnormal sound in either lung, the respiration being everywhere quite pure and natural. The least exercise increases very much her sufferings. Her spirits are always depressed, and latterly she has suffered from attacks of hysteria, attended with a feeling of stuffing or pressure in the region of the thyroid gland. She soon after entered the Meath Hospital, under the care of Dr. Stokes, where she derived great benefit from rest, prussic acid, and belladonna plaister to the region of the heart. While an inmate of the hospital the catamenia were irregular, and she suffered from leucorrhœa, but she left before the treatment, which these symptoms suggested, could be put into practice. She then returned to her former occupation as housemaid, but soon began to suffer from the fatigue incidental to it; the palpitations and other symptoms all became more severe, and, in addition, she was attacked with acute lancinating pains through the loins, for which she was cupped, with decided benefit.

I had no opportunity of examining her till the latter end of October, 1844, when she again came to me complaining of the marked increase in all her symptoms; the palpitations now were never absent, and were just as distressing on days when she underwent no fatigue, as when she had been greatly fatigued; the headaches, which before commenced in the morning and ceased towards mid-day, now commenced at the latter period, and continued till bed-time. She did not, however, now suffer from hysterical attacks. She complained of great lightness in the head, but of no dimness of vision, pain or weight in the eyeballs, though they had greatly increased since I last saw her, particularly the left one; they still retained the peculiar staring look, and since

she left the hospital she had been subjected to much annoyance, from the attention their peculiar condition attracted wherever she went. The pulse was then 96, small but regular. No material change had taken place in the condition of the heart since she was last under observation; she was obliged, during the interval, to consult a medical man, who treated her actively, by bleeding, leeching over the heart, low diet, and other antiphlogistic measures, which greatly increased her suffering. There was then no enlargement of the thyroid perceptible. I directed her to adopt the same line of treatment as was recommended for her by Dr. Stokes; but after some time she again entered the hospital, and having obtained relief, she returned to her former situation. For the last two months she has again come under my care, and appears to derive benefit from belladonna plaister over the heart, and the internal use of iron and full diet. The catamenia have become regular, and the leucorrhœa has stopped, but as yet there is no very perceptible improvement in the cardiac phenomena, the same bounding impulse shaking the whole thorax, and the loud sounds, without increase of dulness, but with a fremissment in the situation of the aortic valve, and a soufflet with the first sound extending for a few inches along the aorta, are the leading peculiarities of her malady.

In addition to the foregoing cases, I am acquainted with some of the details of another, communicated to me by Dr. Stokes. A young lady was affected for many years before her death with exactly the same form of cardiac disease as above described, and in the progress of the disease the eyeballs became so much enlarged and protruded as to render it impossible to close the eyelids; yet from the beginning she, likewise, remained free from dimness of vision or ophthalmia.

Recently a lady called upon me, on business unconnected with her illness; I was immediately struck with her en-

larged, prominent, and staring eyeballs. After some time I inquired if she had ever complained of any symptoms referrible to the heart, when she entered into a full account of all her woes, from which it was evident she had been labouring for years under severe palpitations and other cardiac symptoms; and she also stated that the eyes were at one time of the usual size, but that for some years past they had been undergoing a gradual process of enlargement, which both she and her friends were quite aware of, but as her sight remained unimpaired, and she suffered no uneasiness in them, this alteration did not occupy much of her attention. As she was at the time under the care of a medical gentleman, I did not, of course, make any further examination into her disease, but I am almost certain that she also labours under this form of heart disease.

The reader may perceive that in all the foregoing cases the cardiac phenomena differed from what is ordinarily observed, for whilst the action was most powerful and rapid, there was no evidence of any hypertrophy of the organ being present, nor is it likely, after the lapse of so many years, that the disease will terminate in that condition. The sound, on percussion, was all through quite natural over the cardiac region, no more than the ordinary amount of dulness being at any time perceptible. The bruit heard over the origin of the aorta in the second case was, I think, caused by the violent shock produced by the blood being driven through the orifice with such rapidity and force by the powerfully contracting left ventricle, and not by any alteration in the structure of the valves themselves. This is rendered more probable from the fact, that it diminished in intensity in proportion to the improvement which the other symptoms underwent at different times.

It is, no doubt, strange that these palpitations should go

on for so many years without inducing hypertrophy of the heart; but to me it seems no more remarkable than that which I have noticed in some forms of hysteria attended with contraction of the limbs, which remained in that condition for four or five years, and yet the muscles were as well developed, and as free from atrophy as those of the other limbs, though these latter were, in fact, doing extra work, during the inactivity of those of the affected limbs. The case of Cunningham, who was for years under the observations of Drs. Graves and Stokes, presented a striking example of this circumstance.*

In the first and second cases the right side of the heart seemed to be more affected than the left, or rather the pulsation was more evident near the sternum than anywhere else, in this particular bearing some resemblance to that form of functional disease of the heart lately described by Professor Christison of Edinburgh, of which I have had under my care some examples. One of these, a gentleman, aged 25, was seen by Dr. Stokes, whose case closely resembled the first one in Dr. Christison's Paper, and in whom the disease was evidently induced by cigar smoking, a habit which the patient was suffering the greatest annoyance, and almost constant sickness of stomach, in his efforts to acquire.

The enlargement of the thyroid gland is, I believe, caused in the manner pointed out by Dr. Graves. The frequent recurrence of temporary congestion lays the foundation for that enlargement, which, commencing in the way described by M'Keon, may ultimately acquire the size to which his extended.

* The right arm and leg of this girl were contracted for several years to the greatest extent, and yet when they were at last forcibly extended, the joints were quite free from any stiffness or grating, and the limbs, which before were rigidly contracted, now became paralytic, and though they remained in that state for months, they underwent no atrophy.

It is unnecessary to draw any lines of distinction between this affection and the common forms of goitre. I confess I am quite unable to offer any explanation of the peculiar change which takes place in the eyeballs. It evidently does not depend on malignant disease situated in the eye itself, behind the organ, or in the lachrymal gland, nor have I been able to detect evidence of the formation of a vascular growth in or about the eye. Some eminent oculists have, I perceive, been frequently puzzled to discover a cause for some forms of protrusion of the eye that have come under their notice, of which some interesting examples are given by Middlemore (*On Diseases of the Eye*, p. 504).

As to the prognosis, I am not as yet in a position to give any opinion respecting it, for, as far as I have been able to ascertain, all the patients, except the lady whose case Dr. Stokes acquainted me with, are yet alive, and I am unable to state of what disease she died. In the first and second cases the disease appears to be undergoing a kind of spontaneous cure.

As to the treatment, it should consist of mild, generous diet, quietude, and sedatives. Active treatment of any kind was always productive of bad consequences in the above cases, whilst the only benefit they experienced was from palliative remedies. But once the nature of the disease is pointed out, it is unnecessary to occupy the attention of my readers with suggestions which must present themselves to every judicious physician in the management of similar cases.

10, *Lower Fitzwilliam-street.*

ART. VIII.—*An Account of the late Epidemic of Puerperal Fever at the Dublin Lying-in Hospital.* By ALFRED H. M'CLINTOCK, M. D., F. R. S. I., Assistant Physician to the Hospital, &c. &c.

[Read before the Obstetric Society].

As the hospital has been very recently visited with an epidemic of puerperal fever, differing in some respects from the former ones which have been observed here, we have thought that it would not be altogether uninteresting to the members of the Society, to lay before them a succinct account of its principal characteristics. In doing so I shall be as brief as possible, and just confine myself to the bare narration of facts.

During the months of January and February the wards were remarkably healthy, insomuch that no death occurred out of the 367 women who were delivered within this space. I cannot say that we remarked the convalescence of the patients to be unusually slow or tardy previous to the outbreak of the fever; at least where such was the case, it arose from their bad health at the time of delivery, and not from any puerperal complaint. From these two circumstances it will, no doubt, be anticipated when I say, that the invasion of this formidable malady was most unexpected and unlooked for when it appeared amongst the patients in our hospital. The first case which excited apprehension in our minds was that of a woman who died on the ninth day, in No. 4 ward, on March 2nd, with symptoms bearing more similarity to typhus fever, with congestion of the lung, than anything else. For the first four or five days after her confinement, this woman went on as well as could be expected; but from this time forward the pulse became quick; she had a very foul tongue, and a good deal of cough and dyspnœa; but no symptom whatever of any mischief going on in the abdomen, till some hours before she died, when it became tympanitic. For several days preceding her death, she was

obliged constantly to sit up in order to relieve her breathing, and each cheek presented a circumscribed purple flush. On the *post mortem* examination, we found general peritonitis, with a slight effusion of lymph, and of about one pint of dark-brownish serum. When the broad ligaments were divided close to their attachment to the uterus, some purulent points, apparently in the veins, were observed. From the result of this autopsy, it was but too evident that the case was one of genuine puerperal fever, coming on at an advanced period after delivery (about six or seven days), with a remarkable latency of the abdominal lymphatics, which was in some measure attributable to the presence of the chest affection. The very day of this patient's death, a strong, robust woman in No. 10 ward, who was only eighteen hours delivered of her third child, after an easy labour, got a rigor, followed by uterine pain, and excessive tenderness, which gradually extended to the entire abdomen, and was accompanied by vomiting, and great tympanitic distention. This woman was bled, but without the smallest relief, was fomented and stuped with turpentine, and got Pil. Hyd. and Ipecac. and also Spt. Tereb. internally; but nothing seemed for one moment to arrest the progress of the disorder, or to lessen the intensity of her suffering, and she expired in about twenty-eight hours from the initiatory rigor. The morbid appearances nearly resembled those of the patient in No. 4, except that the peritoneal inflammation was more intense, and that there was less lymphic exudation. There was a considerable quantity of brownish liquid effusion. I may mention, as an interesting fact, that the child of this woman died the day after its mother, of rapid trismus. All the succeeding cases occurred before the commencement of 7th; but it must be remembered that the admission of patients into the hospital was stopped on the 4th. We have just seen that in No. 10 ward, out of seven patients, one only was attacked and died; in No. 11 ward, out of the same number, there was but one attacked, and she also fell a victim to the disease. This was

a very healthy, strong woman, who was confined of her sixth child, and in twenty-four hours after she got a rigor, which was followed by pain in the belly, constant vomiting, and tympanitis. There was no morbid reaction; and she gradually sunk, and expired in about forty hours. The *post mortem* appearances were nearly the same as those before described; but upon the anterior and posterior surface of the uterus, its serous coat was found elevated by the effusion of a quantity of puriform fluid between it and the proper structure of the organ; and when the peritoneum, in these situations, was pulled with the fingers or forceps, it was readily detached, and came away in large fragments. Now, if we set aside these three dropping cases just related, each of which, in their respective wards, was the only woman attacked, we shall find that of sixteen women delivered between the 2nd and 5th inclusive, eleven got the fever, and out of this number seven were lost. The next ward we come to is No. 1; there, amongst five patients, two were seized with the complaint, each on the second day, and both died; one of them exhibited for some hours that treacherous remission in the symptoms which has been not unfrequently observed, and which is so apt to deceive the inexperienced attendant, and induce him to give a prognosis which, in a few hours, he will be compelled to retract. This remission lasted for ten or eleven hours, but after the re-appearance of the bad symptoms her strength gave way very speedily, and she expired in about sixty-six hours from the time of invasion. The duration of the disease with the other patient in this ward was much more protracted, from the time of seizure till her death, including a period of ninety-eight hours. For the last two days of her life she presented a striking assemblage of the symptoms characteristic of a typhoid state, which, indeed, was legible on her very countenance. There was total prostration of strength; the tongue was covered with a dry, fissured coating; the pulse averaged about 140; and she lay low in the bed, and

perfectly supine. In this, and some of the other cases, I examined very carefully the sounds of the heart, but could not detect any change from their natural character. Throughout their whole course, this woman's symptoms partook less of the acute condition, and she suffered a smaller amount of pain, than was observed in any of the other fatal instances. From the moment that signs of prostration began to manifest themselves she was liberally supplied with wine, but it did not seem to have any decided effect in stimulating her, though it is possible that it may have been the means of prolonging her existence. From the features of this woman's case we expected to find the most extensive disorganization in the venous tissues of the uterus; nor were we wrong in our conjecture, for not only in the broad ligaments, but in all the lower portions of the body of the uterus, wherever an incision was made, puriform matter flowed out abundantly from the divided veins, so that, to use the remarkable expression of John Clarke, we might say that, in this situation, the uterus was fairly rotten. Besides this, there was a pretty considerable effusion of opaque, straw-coloured serum into the peritoneal cavity, and a good deal of recently formed lymph glueing the intestines together. Within a very short time after this woman's death, her surviving infant got erysipelas of the face and neck, which rapidly extended, and though it was provided with a nurse, and removed out of the hospital, yet it was of no avail, for within a few days it died under the attack.

In No. 2 ward were seven patients, and of these five got the fever, out of which number three died. In two of the fatal cases the symptoms were nearly alike, namely, a very quick pulse; intense abdominal pain and distress, at first limited to the hypogastric region, but rapidly spreading over the entire belly; constant vomiting, which set in almost from the commencement, and great tympanitis. The matter ejected from the stomach consisted chiefly of bile and mucus, sometimes being greenish, and at others of a deep yellow colour, not

unlike the yolk of eggs. For some hours before death, the fluid vomited by one of these women became of a dark-brown colour, and the vast quantity that she threw up was surprising. In one other case only was a like occurrence observed. We examined the bodies of two of these women, and found the same general appearances that were remarked in the others, namely, the intense peritoneal inflammation, and the effusion of dark-coloured, turbid serum. The ovaries and Fallopian tubes were greatly congested, and their structure much altered, and there were some slight traces of phlebitis.

In No. 3 ward were four patients only (from the stop having been put to admissions) all of whom were attacked, and two fell victims to the disease. One of these was a strong, healthy young woman, a Swiss by birth, who was delivered of her first child after a natural labour; in thirteen hours she began to complain of some uterine pain, which had extended over the whole abdomen in two hours, about which time she had a transient rigor. When seen shortly after this, her countenance was expressive of the deepest suffering, and but too plainly indicated that the complaint had seized her in its most malignant form. She was bled, but without any decided relief, and on the second day of the disease she got a warm bath, which not only produced a very marked alleviation of her sufferings, but for some hours was followed by a manifest improvement in her symptoms. This favourable change, however, proved but of short duration, for in a few hours, after a violent fit of coughing, the pain returned. She began, for the first time, to vomit, and the pulse became quick and weak; together with these, she was occasionally delirious. It is almost needless to add, that in this state she did not hold out long; but it is worthy of note, that for a short time before death she was free from pain, and was perfectly conscious and rational. I have not thought it necessary to detail the particulars of her treatment, which, besides what has been already stated, consisted in the admi-

nistration of mercury, turpentine, and wine, &c. &c. This woman's child died of convulsions the very day following that upon which she herself was taken ill.

The other fatal case in this ward was in the person of a thin but healthy woman, who was confined of her first child, which presented footling, after a labour of ten hours. She went on favourably till the third day, when she got a very quick pulse and uterine tenderness, with scanty and discoloured lochial discharge. As the disease appeared with her at a later period after delivery than with any of the others who had it, so there was observed to be a corresponding absence of acuteness in her symptoms, that is to say, they were less urgent in their character, and followed each other in less rapid succession. The second day of the disease we put her into a warm bath, and kept her in it for upwards of an hour, by which she expressed herself much relieved, though considerably weakened. This same day vomiting and tympanitis were added to the number of her symptoms, both of which continued up to the time of her death. This event took place about one hundred hours, or a little better than four days from the time when she was first taken ill. Bleeding was had recourse to on the day of attack, but she only bore the detraction of $\frac{3}{4}$ x., which was not productive of any permanent improvement in her condition, nor did the blood drawn exhibit any of those appearances which are usually considered as characteristic of inflammation. Besides this treatment, leeches were applied over the hypogastic region, on the second and third days, and from the very outset mercury was given internally at short intervals, and, at the same time, frictions with the mercurial ointment were diligently employed every few hours, so as, if possible, to bring the system under the influence of this medicine in the shortest time. This poor woman evinced a great dread of getting the fever, and when taken ill she was seized with the greatest terror and apprehension, from which shock, I think,

indeed, she never properly rallied. Doubtless this must have conduced to bring about the fatal termination, for in the beginning her symptoms were not at all so formidable as with the other women that died. Upon opening the abdomen there was found, besides the dark serous effusion, a good deal of lymph, cementing the intestines together. The uterus was soft and large, and upon cutting into it there was much pus in the lower part, which oozed out when an incision was made, and apparently came from divided veins. This woman's child also died of convulsions on the second day of its mother's illness.

I have now taken a very hasty glance at the *ten* cases that proved fatal out of the entire number which were attacked, and which amounted to *fourteen*. It will next be instructive to state briefly, in a statistical manner, the principal points of interest connected with these ten cases. Firstly, then we would remark that as to the time of the attack after delivery, it took place, in four instances, within twenty-four hours, or on the first day; in other four cases on the second day; in one case on the third day; and in one about the sixth day. Now with respect to the duration of the disease in each patient from its commencement till its termination, we find that two died within thirty hours, three within fifty hours, three under seventy hours, and two on the fourth day. There is an old observation respecting the mortality arising from epidemics, which the experience of this one tends to confirm, namely, that the cases which present themselves immediately after an epidemic has invaded a community, are more malignant and more fatal than the subsequent ones. This was, I believe, especially true of Asiatic cholera.

We shall now sum up in a few words the prominent symptoms which, with some variations, were present in nearly every instance. First, of the rigor. This was observed in all of them, though in few only did it amount to any thing

more than a slight shivering or passing sensation of chilliness: with some it was the first symptom, whilst with others it was preceded for a few hours by abdominal pain. This latter symptom was universally present in some degree, and it, together with the tenderness upon pressure, was always at first confined to the uterine region, but extending from thence, came to occupy the entire abdomen. In the earlier cases this pain and tenderness were much more severe, and spread with greater rapidity over the whole abdominal cavity, than they did in those attacked at a later period; and another curious fact about this pain was, that a few hours before death it generally subsided altogether.

Vomiting, during some period of every case, were always present, and once it commenced, it generally proved rebellious to every mode of treatment that could be adopted, and continued to harass the unfortunate patient until a short time before her death. Those cases where it appeared as an early symptom were the worst. The matter ejected was principally a greenish or deep yellow liquid, and in two cases it changed from this to a dark brown colour, so as to closely resemble the coffee-ground vomit that is seen in cases of ruptured uterus and others. *Tympanitis* was a constant attendant, but it varied in degree, both in the different individuals, and with the same one at different times, generally speaking.

Rapidity of pulse was, I need hardly say, a circumstance invariably present, and its average frequency was somewhat between 120 and 140. In only two of these fatal cases was there at any time an approximation even to that character of pulse which is appropriately termed the inflammatory; in all the others it is described by saying that it was weak and yielding, and easily obliterated under the finger.

A perfect possession of the intellect and faculties was retained by every patient up to the last moment of existence. This fact, I believe, is generally observed in the disease,

and, no doubt, is attributable to the mode of death, which is that by asthenia, or death commencing at the heart. Coldness of the extremities, a reddish purple colour of the fingers and hands, a mottled appearance of the fore-arms, and failure of the pulse, were the usual precursors of dissolution; and together with these, the countenance assumed a very contracted and haggard aspect. This last change was commonly observed to take place some time prior to the others.

Nine of the ten bodies were examined *post mortem*, but as allusion has already been made to the morbid appearances which presented themselves, it is unnecessary that I now do more than notice them in a summary way. A considerable amount of effusion into the peritoneal cavity, of a straw-coloured or brownish turbid serum, existed in every case, and together with this were unequivocal marks of extensive peritonitis; but no deposition of lymph was observed, except in two or three cases, where the duration of the disease was more prolonged than with the rest. Pus, in the substance of the uterus, was found more or less with all, but in two cases only was the quantity at all plentiful.

The serous investment of the uterus always participated in a marked degree in the general inflammation, but *no example* of what could be justly regarded as inflammation of the proper muscular substance of the uterus occurred, save one, and this was of a rather doubtful nature. Besides these there were some other morbid changes which were observed in different cases, such as pus in the broad ligaments and uterine substance, softening of the lining membrane of uterus, a congested and disorganized condition of the ovaries, deposits of matter between the peritoneum and uterus, &c. &c.

It has been already stated that four patients recovered from the disease: the chief particulars concerning these we shall now proceed to relate. One of them, a healthy young woman, of her first child, was attacked, seven hours after

delivery with rigor and pain in the uterus, which was very large, and tender to the touch. She got a stimulating diaphoretic at the moment, and as soon as reaction set in, she was bled *ad deliquium*, and put under the use of Hydrarg. both internally and externally. Marked and permanent relief followed the bleeding, and the pulse also came down in frequency, nevertheless the uterus remained tumid and sensible under pressure for some days, and it required the application of leeches, two or three times repeated, before this state was completely removed, and the mercury was pushed so as to slightly affect the mouth. She was discharged perfectly well on her tenth day. The most unpromising feature in her case was, the very early period of her parturition at which the disease shewed itself; in all the other symptoms it bore a strong resemblance to the sporadic form of puerperal fever; thus there was not much pain complained of, the tenderness never extended beyond the uterus, there was no vomiting, very little tympanitis, and the pulse did not range above 120; and lastly, if, with Gooch, we consider remedies as the test of diagnosis, then the good effects from the venesection will establish the similarity. The other women were attacked on the third day; with two of them it was slight, and yielded to the remedies that were employed, viz. bleeding, mercury, and stuping with turpentine. The last of the four cases which remains for notice, but who, I should remark, was attacked at a date previous to the two just mentioned, was of a more alarming nature, and within the first few days presented some of the worst symptoms. She had been delivered of her fourth child, and was going on well, when on the 3rd day she got a rigor, to which ensued general pain and tenderness of the abdomen. Reaction was promoted by a stimulating diaphoretic, and a bran poultice to the belly, and when brought about she was bled to faintness. This took place as soon as eight ounces had flowed from the vein. After this blood had stood for some hours,

and had separated into crassamentum and serum, the former was found to be very small and firm, and very much cupped. Though nearly every woman who got the fever was bled, yet this and another were the only instances where the blood drawn exhibited any inflammatory appearances. After venesection she was put under the use of mercury, with occasional doses of oil or Tereb., or both conjointly, according as the intention was to free the bowels, or to relieve their flatulent distention. The abdomen was leeches, and repeatedly stuped with turpentine.

The expiration of four days found her greatly reduced in strength, with a feeble, small pulse at 136. General and acute tenderness, with much tumefaction of the belly; a very irritable stomach; the respiration frequent and heaving; profuse perspirations during sleep; and with such a complete distaste for food, that it was with difficulty she could be prevailed on to take any nourishment. Under these seemingly hopeless circumstances she was ordered a liberal allowance of wine, besides arrowroot and strong chicken broth as often as she desired. Her medical treatment consisted chiefly in blistering the abdomen, mercurial frictions, and small doses of the Ol. Tereb. frequently repeated. This plan was, of course, occasionally deviated from to meet particular symptoms; but except on these occasions it was closely followed and under it she began to amend in the course of a few days. This improvement was manifested by the gradual coming down of the pulse, and the subsidence of the other bad symptoms. This patient has not yet left the hospital.

This woman's case may justly be ranked amongst the very small number where recovery takes place apparently under the most desperate circumstances, and the recollection of which, on future occasions, stimulates us to adopt the *nil desperandum* practice, and to act up to the motto, "that as long as there's life there's hope." Before concluding, I would

wish to direct attention to the following facts which are stated simply as such, without attempting to generalize or found any opinion upon them.

1st. The very sudden and unexpected manner in which the epidemic appeared, without any of those precursory warnings which have usually preceded its invasion.

2nd. The remarkable circumstance, that of the fourteen children of the women attacked, five died ; one of rapid trismus ; one of erysipelas ; and three of convulsions.

3rd. That out of the ten fatal cases, nine were examined *post mortem*, which examination revealed the most extensive morbid appearances, quite adequate to account for death.

4th. During the same period that puerperal fever was in our wards, erysipelas was very prevalent in some of the surgical hospitals throughout the city. A like coincidence has been observed on former occasions. In connexion with this, I may be allowed to advert to two Papers in the *Provincial Medical Journal*, one by Mr. Storrs of Doncaster, the other by Mr. Ebrington of Birmingham, both of which go to establish the fact, that puerperal fever may be induced by fomites, or infection conveyed from erysipelas.

5th. It is worthy of remark what a small detraction of blood was sufficient to bring on syncope in this epidemic. Nearly every case was bled as soon as the system had rallied from the rigor ; but only one woman (who recovered) bore the loss of so much as 15 ounces, whilst from 6 to 8 ounces was about the average.

I make no apology for the brevity of this communication, as therein consists its chief merit.

ART. IX.—*Observations on the Administration and Effects of Ergot of Rye on the parturient Female and her Offspring, when administered during Labour.* By SAMUEL L. HARDY, M. D., F. R. C. S. I., Assistant Physician to the Lying-in Hospital, Vice-President of the Dublin Obstetrical Society, &c.

[Read before the Dublin Obstetrical Society.]

THE use of ergot of rye in the practice of midwifery has, within the last few years, become so very general and extensive, as to lead one to suppose that we possess an accurate knowledge of all its properties and effects upon the parturient female and her offspring. Unfortunately, however, we are constrained to think otherwise; and notwithstanding the many valuable essays that have from time to time been written upon the use of ergot, some of which were read before this Society, there are many points of great importance which still require investigation and elucidation.

During the period that I have been connected with this Institution, I have had extensive opportunities of witnessing the exhibition of ergot, and have kept accurate notes of a large number of cases, with a view, if possible, of throwing some further light upon the action and effects of this drug. In the prosecution of this inquiry, there were certain points, to elucidate which I directed particular attention, and these I shall now briefly mention.

1st. The period after administration that its action commences.

2nd. Its effects on the maternal pulse (when any), and how soon evident.

3rd. Its effects upon the foetal heart (when any), and how soon produced.

4th. The state of the uterus and lochial discharge during convalescence, in cases in which it has been exhibited.

We shall now proceed to consider the first of these questions, namely :

I.—AS TO THE TIME THE ACTION OF THE ERGOT UPON THE UTERUS COMMENCES.

From comparing tables which I have drawn up, it appears that in some cases ergot acts on the uterus so soon as seven minutes after its exhibition, whilst in others a much longer period of time is required ; but in the generality, from about ten to fifteen minutes may be stated as the average. In those cases where the children have been expelled alive, I have always observed the action of ergot on the uterus to commence within twenty-five minutes. On the other hand, when a longer period than this elapses before the uterus takes on action, the use of instruments has been necessary to perfect the delivery, or the children have been dead born.

In some instances the ergot has produced in the uterus a kind of tonic contraction, without any effective expelling pains.

In accordance with what has been observed by others, I have noticed that in those cases where the ergot acts beneficially, its exhibition is followed by strong expulsive pains, which gradually increase in frequency, so that, in fact, they may be said to run into each other, there being no distinct interval between them.

II.—EFFECT ON THE PULSE.

The action of ergot on the maternal circulation is a subject of considerable interest, and, so far as I am aware, has not received the attention it deserves from practitioners. This is a fact of great importance, and one of the truth of which I have convinced myself by repeated observation.

In nineteen cases of those I have recorded, there was a marked diminution in the frequency of the mother's pulse following the administration of ergot, and this effect gene-

rally began to take place from about fifteen minutes to half an hour. In all these instances when the depression of the pulse occurred, the foetal heart underwent a similar change.

From the consideration of this fact, a practical question naturally arises, namely, is ergot a safe remedy in a case where the woman is greatly reduced by hæmorrhage arising from relaxation of the uterus after delivery? A case bearing exactly on this point occurred in No. 3 ward of this hospital about three years ago, where a draining had continued for several hours after the expulsion of the placenta, by which the patient was greatly weakened: the usual dose of powdered ergot was given, and was followed almost immediately after by most alarming depression, requiring the exhibition of the most powerful stimulants.

In several of the cases where the circulation of the patient had undergone this depression from the action of ergot, the effect continued for several days, notwithstanding, in some instances inflammation of the uterus followed delivery; and the uterine tumour not unfrequently remained much larger than natural, even where there was no reason to suspect the presence of inflammation of that organ.

III.—THE EFFECTS OF ERGOT ON THE FOETAL HEART.

The effect of ergot on the foetal heart is even still more remarkable than on the maternal pulse, and, in a practical point of view, deserves much more serious investigation and research.

By referring to the tables it will be found that in the great majority of cases, a diminution in the foetal heart's pulsations followed the exhibition of ergot. The period at which this effect begins to be produced, varies from about fifteen minutes to half an hour, sometimes a little sooner, and occasionally at a later period.

The most common effect, and usually the first that I have observed, is a diminution in the frequency of the pulsations;

this is succeeded, after some time, by an irregularity in its beats, which irregularity continues more or less until the sounds intermit, and, at length, after a variable period, become quite inaudible.

There is a practical inference which my own observations have led me to with respect to the changes in the foetal heart, namely, that in those cases where the number of its pulsations have been steadily reduced below 110, and, at the same time, *with intermissions*, the child will be rarely, if ever, saved, although its delivery should be effected with the greatest possible speed.

In making this statement, I may be allowed to say, that the mere depression of the foetal heart below 110, *without intermissions*, is not in itself sufficient to cause this result, as instances have occurred where the number of pulsations have been still more reduced (in one case so low as 56, *vide* Case I.), and yet by speedy delivery, and adoption of the usual remedies, the children have been saved. But in none of these instances was there a *steady, distinct, and well-marked intermission*.

The knowledge of these facts points out the necessity of watching closely the change in the foetal heart after the administration of ergot, as delay beyond a particular time cannot be allowed with impunity to the life of the child. Should the case in other respects be eligible for the application of the forceps or vectis, in order to save the child it must be had recourse to within a certain period, which can only be known by a careful use of the stethoscope.

On this subject, I am happy to state, my observations fully coincide with those of Dr. Beatty, who fixes the limit beyond which the child will rarely be born alive at two hours. To this rule I have met with but three exceptions. (*Vide* Cases I. IV. and XIII. in Tables).

It by no means follows from this that a period of two hours should elapse from the exhibition of ergot until the

expulsion of the child. In two instances (Cases XX. XXI.) the children were lost, although only twenty minutes in one, and twenty-five in the other, had passed from the administration of the ergot to their expulsion.

Different opinions have been advanced as to the cause of the child's death, some supposing this event to result from the vigorous contractions of the uterus, while others believe the ergot to exert a poisonous influence on the life of the child. Perhaps the combined effects of both these agents may sometimes cause it.

In numerous instances I have observed the foetal heart undergo all these changes, where very little uterine action, and sometimes none whatever, followed the exhibition of ergot, on which account I am led to believe that the depressed state of the foetal circulation must arise, not from uterine contractions, but from some deleterious influence exerted by the ergot. Its effects on the mother's pulse corroborate this opinion.

These depressing effects are so great, that frequently after birth a considerable time elapses before the children can be perfectly restored; and I have observed that infants born in a weak state, where no ergot was given to cause their expulsion, have been restored to animation with much less difficulty than in those cases in which this medicine was exhibited during labour.

The placenta, in most of the cases that have come under my notice, has come away favourably very soon after the expulsion of the child. In one case a good deal of hæmorrhage occurred, both before and after its expulsion. In a second the uterus was not affected by the ergot, though the pulse was greatly reduced in frequency, and the foetal heart had ceased in about twenty minutes after its exhibition. It was necessary in this instance to introduce the hand for its removal. In a third the uterus, which had acted well in expelling the child, contracted so closely at the os immediately

after its expulsion, that although the placenta was ascertained by Dr. Johnson and myself to be detached and lying in its cavity, its removal could not be effected for upwards of an hour, until relaxation of the os took place.

I look upon Case I. (*vide* Cases) as a case deserving of particular attention, and for the following reasons: first, it shews the necessity of closely watching the expulsion of the placenta in every instance where ergot has been given during labour, a rule I have always observed, but much more so since encountering this case. Secondly, a question arises as to the proper time of giving ergot for the purpose of preventing flooding to those patients who after the birth of the child are subject to uterine hæmorrhage.

There are three periods at which this medicine might be administered in such cases. First, when the head is about to pass; secondly, after the head has been expelled; and thirdly, so soon as the insertion of the funis into the placenta can be reached.

By giving ergot before the child has been expelled, some time may be gained; but should the placenta be morbidly adhering to the uterus, the difficulty of introducing the hand for its removal will be greatly increased.

By adopting the third plan, the risk of having to introduce the hand for the placenta is avoided. To this method it may be objected that much time will perhaps elapse, and a considerable quantity of blood be lost before the ergot is administered; nevertheless, the possibility of the placenta being morbidly adherent should be ever present in the mind of the practitioner, and deter him from resorting to a measure which may so greatly augment the danger of the complication.

Hæmorrhage, after the birth of the child, is an occurrence I have never met with in any case where the uterus was sensibly affected by the ergot during labour. Mention is made in my tables of one instance only of flooding pre-

vious to and after expulsion of the placenta. This was a case of what nearly might be called *inertia uteri*, in which ergot exerted very little influence in exciting uterine contraction; I am, therefore, inclined to think, that in general we need not be very apprehensive of such an event, although it must be admitted that caution is always necessary. (Case XXXVII. in Tables.)

IV.—THE STATE OF THE UTERUS AND LOCHIAL DISCHARGE.

During the convalescence of those patients, the points which seem to me deserving of particular attention refer to the state of the pulse, the uterus, and lochial discharges.

Allusion has already been made to the effect of ergot on the maternal pulse, so that I need not again dwell on it.

The volume of the uterus is often found much greater than after ordinary labours, imparting to the hand almost the feel of a uterus before expulsion of the placenta. Dr. Johnson has frequently remarked this fact, of the truth of which I have convinced myself by repeated observation.

In addition to this enlarged state of the uterus, it has sometimes a firmly-contracted feel (as in Case I.), which generally continues for several days.

In a few instances the lochial discharge was rather pale and scanty, although nothing unfavourable occurred during convalescence to account for this circumstance.

With some few exceptions, the women had generally good recoveries. Of those who were attacked with inflammation all recovered but two. One was a case of retained placenta where the hand was introduced; this patient died of uterine phlebitis. In the second there was inflammation of the peritoneum and uterus.

The children that were born alive, all, with one exception, did well. In this case delivery was effected by the forceps, as the foetal heart had fallen so low as 100 from the

exhibition of the ergot. This statement refers only to those cases where complete restoration was accomplished after delivery, although, strictly speaking, the child that died could not be said to have been fully restored to animation. It died within three hours after delivery. (Case XI. in Table.)

MODE OF ADMINISTRATION.

The manner of administering ergot varies with different practitioners. The plan adopted in this hospital is the following: half a drachm of the powder is infused for ten minutes in about three ounces of boiling water; to this infusion, when strained, ten or fifteen grains of fresh powder is added, with a little sugar. This dose is generally repeated in twenty minutes, and occasionally, if the uterus does not act well, a third draught may be given. In a few cases vomiting occurred; in other instances, where the stomach was irritable, the ergot seemed to exert a beneficial effect in quieting it.

I only remember having once seen delirium come on during its action. In this case the uterus acted vigorously; the pulse fell twenty beats, and the foetal heart within two hours became inaudible. After delivery, which was effected by the crotchet, so great a degree of inertia of the uterus followed, that it was necessary to introduce the hand for the removal of the placenta. (Case XL. in Tables.) Died of phlebitis.

I think it right to mention that in every case of tedious labour the usual remedies for exciting uterine action, such as stimulating injections, change of position, &c., are first had recourse to before resorting to the use of ergot.

The observations here detailed have been limited to the effects of ergot when exhibited in the one form only. It was my intention to have given an account of the action and comparative efficacy, during parturition, of the various pre-

parations of this medicine, whether as administered by the mouth, or in the form of enema; nevertheless, as I still continue to prosecute the investigation of this interesting topic, I hope at some future period to lay before the Society the results of my further inquiry.

CASE I.—Anne M'Daniel, æt. 30. Third pregnancy. Placenta held by os uteri; foetal heart, 56.

Labour commenced on the 17th of September, 1843; continued until the 19th, when, at 25 minutes to 8 o'clock, P. M. (on account of the slowness and inefficiency of the pains, which had not caused much advance for nearly twenty-four hours), a dose of ergot was given. At this time the pulse was 104, and the foetal heart 136. The head, the presenting part, was in the third position, and the ear within reach. In twelve minutes the pains were evidently increased in force; in fifteen, the foetal heart beat 152, that is sixteen beats more than when the ergot was given, but no change had taken place in the pulse. A second dose was given in twenty minutes after the first. 9 o'clock: no change in the pulse; foetal heart 124, (twelve lower than before ergot was given); the pains strong, and causing the head to advance. 20 minutes past 9 o'clock (one hour and forty-five minutes): the foetal heart very much affected, occasionally seeming about to cease; uterine action very good, forcing the head to the external parts at each return of the pains, which are nearly continuous. At 10 minutes to 10 o'clock, two hours and a quarter from administering the ergot, the child, a male, was expelled; its heart, immediately after birth, beat 56; in about one minute it rose to 76; in twenty minutes, when animation was restored, the number of pulsations amounted to 136. The mother's pulse, in twenty minutes after delivery, had fallen to 83 from 104, what it was when the ergot was given, and during its action.

On examination, the placenta was ascertained to be still within the uterus, the insertion of the funis into its substance

could with some difficulty be reached by the finger, but so rigid was the contraction of the os uteri, that nothing short of violence could have dilated it in the least degree: externally the uterus felt of almost strong hardness.

In three quarters of an hour after delivery the patient vomited, but the uterus remained still in the same state; pressure by the hand applied externally, with the intention of pressing off the placenta, had not the least effect. In an hour and five minutes a discharge of blood took place; the placenta was then found lying in the vagina, and the uterus felt as firm as before its expulsion. The patient had an attack of matietes, which terminated favourably. The uterus remained large for some days. Both mother and child ultimately did well.

CASE II.—Elizabeth Collins, æt. 35, a healthy looking woman. Second pregnancy.

Labour set in on the 15th of January, 1845, at 6 o'clock, A. M. On the same day, at 4 o'clock, P. M., the os uteri was fully dilated, and the membranes ruptured. The head, at 10 o'clock, was so low as to allow the ear to be reached by the finger.

On the 16th, as the pains were feeble, and had not caused much advance during the night, at 6 minutes to 12 of noon, a dose of ergot was given (3ss. gr. x.), the pulse being 120, and the foetal heart 136. In twelve minutes the uterus acted better; the pulse and foetal heart remained unaffected. Twenty-five minutes; no effect on the pulse or foetal heart; good uterine action; the ergot repeated (3ss. gr. x.) The head, from the time the ergot began to act, advanced steadily, and in an hour and five minutes, the child, a male, was expelled alive; the placenta followed soon after the birth of the child.

CASE III. (Case IV. of Table.)—Anne Pierson, æt. 25. First pregnancy.

Labour set in on the 20th of February, 1844.

On the 21st, at 9 o'clock, A. M., the os uteri was fully dilated; at 12 o'clock noon, the membranes ruptured, and the head had descended so low as to allow the ear to be reached. In this situation it remained, owing to feeble uterine action, till the 22nd, on which day, at 26 minutes past 4 o'clock, P. M., she had a dose of ergot (3ss. gr. x.), the pulse being 84, and the foetal heart 140, and strong. In twenty-five minutes the pains seemed to be a little increased. At 10 minutes past 5 o'clock a second dose was given. The pulse, at 6 o'clock, (one hour and a half nearly), was the same as when the ergot was first given, 84, but the foetal heart had fallen to 116, and sometimes 104, and intermitting occasionally; the pains were not good, though at each return of uterine contraction, the head distended the perineum. A third dose was given at 10 minutes past 6 o'clock. At a quarter to 7 o'clock, the child, a female, was expelled, and with difficulty restored; that is, two hours and twenty minutes after the ergot was administered. The pulse, at 7 o'clock, had fallen to 72, and the placenta was lying in the vagina. During recovery, the uterus was well contracted, and the lochial discharge of the usual colour and quantity. Both mother and child did well.

CASE IV. (Case V. of Table.)—Mary Fegan, æt. 25. First pregnancy.

Labour set in early on the 30th of March, 1843. On the 31st, the head of the child having remained on the perineum for twelve hours without making any advance, at 19 minutes to 12 o'clock, noon, a dose of ergot was given, the pulse being 96, and the foetal heart 144. In ten minutes the pains were increased in strength, and the pulse reduced to 88. In twenty minutes the ergot was repeated, pulse 80. At a quarter to one o'clock, a living female child was expelled, and a second, also a female, presenting naturally and alive in a quarter of an hour after. The placenta came off favourably. During her recovery, which was very good, the lochial dis-

charge was of the usual colour and quantity. Children did well.

CASE V. (Case VI. of Table.)—Mary Powell, æt. 20. First pregnancy (a full plethoric woman).

For upwards of twelve hours the head of the child remained in the same situation, owing to feeble uterine action, the ear being within reach.

On the 5th of October, 1844, at 10 minutes to 11 o'clock, she had ergot (3 ss. gr. x.); the pulse at the time was 132. The foetal heart 160, and not to say strong. In twenty minutes the pulse fell to 120, but the pains were not in the least improved, and the patient seemed inclined to sleep. She now had a second dose. Uterine action in a few minutes became more frequent; the tendency to sleep went off, and the foetal heart beat at the rate of 100, occasionally intermitting. At 25 minutes past 11 o'clock the pains were very frequent, but not strong, nor causing much advance, and the pulse was down to 112. The child, a male, was born alive at 25 minutes to 12 o'clock, and the placenta expelled immediately after into the vagina. During recovery the uterus remained large for some days, but the lochial discharge was of the usual colour and quantity. Both mother and child did well.

First labour, male, alive, twenty-eight hours; sixteen hours in second stage; forty-five minutes from dose child born. Pulse and foetal heart fell; uterus acted well.

CASE VI. (Case XIV. in Tables.)—Anne Doran, æt. 30. Third pregnancy.

Labour set in on the 18th of July, 1843, and continued until the head of the child had come to press upon the perineum. The pains then became inefficient, and no advance was made for some hours. At 20 minutes to 10 o'clock, P. M., a dose of ergot was given, the pulse being 92, and the foetal heart 160, and very distinct. In half an hour the pulse had fallen to 84, and the foetal heart beat very indistinctly. Uterine action was scarcely in any degree improved. She now

had a second dose. In half an hour from first having the ergot, although no increase of pains took place, the foetal heart became so much depressed that delivery had to be effected by the forceps. The child, a female, was with difficulty restored to animation. The placenta came off favourably. Both mother and child did well.

CASE VII. (Case XV. in Table.)—Bridget Cavanagh, æt. 31. First pregnancy.

Labour commenced on the 1st of March, 1843. Owing to rigidity of the os uteri, the first stage occupied a period of thirty-four hours.

On the 4th, at 9 o'clock, P. M., the os uteri was fully dilated the membranes ruptured, and the head presenting: (face to pubes). Labour continued from this time until the evening of the 5th, when, at 9 o'clock, a dose of ergot was given, uterine action being very feeble, and the head having remained nearly in the same situation for some hours. The pulse, at the time of exhibiting the ergot, was 96, and the foetal heart 152. In ten minutes the pains were improved, and in fifteen minutes the ergot was repeated (powder and infusion, gr. x. 3ss.) In half an hour the pulse fell to 48. At ten o'clock, being an hour from the time the ergot was first given, a dead male child was expelled, and followed in half an hour after by a second child, also a male, presenting naturally, and dead born.

The placenta came off favourably. The pulse remained depressed for some hours; on the second day it was 76. This patient's recovery was very good.

CASE VIII. (Case XVII. in Table.)—Bridget Dooley, æt. 34. First pregnancy.

Labour commenced on the 11th of March, 1843. At 10 o'clock, P. M., the same day, the membranes ruptured; and the os uteri soon after became fully dilated.

On the 12th, at 23 minutes to 11 o'clock, the pains being weak and inefficient, a dose of ergot was given. At this time

the head was nearly pressing on the perineum. The pulse 104, and the foetal heart 132. Uterine action came on in fifteen minutes.

At 11 o'clock, the pains became nearly continuous, but were not increased in strength. The pulse had fallen to 96, and the foetal heart was scarcely audible, beating 100, and occasionally but 60 in the minute. A second dose of ergot was given in half an hour after the first. At half past 11 o'clock the pulse was 80, and the foetal heart about 90. Some advance had taken place in the progress of the labour.

On the 13th, at half-past one o'clock, A. M., nearly three hours from the time the ergot was first given, a dead male child was expelled. The placenta came off favourably. The recovery of this patient was very good.

CASE IX. (Case XX. in Table.)—Bridget Whelan, æt. 33; second pregnancy. Labour commenced at 6 o'clock, A. M., on the 20th of September, 1843.

At 25 minutes to 12 o'clock, noon, on the 21st, she had a dose of ergot, the pains being feeble, the pulse 88, and the foetal heart 136.

In seven minutes a strong pain came on; soon after the uterus acted forcibly, the pains coming on in rapid succession, with scarcely any intermission.

In twenty minutes the head, which presented in the second position, had come to press on the perineum; pulse 88; foetal heart 134, and not so strong.

In twenty-five minutes from having the medicine the child was expelled; its heart had nearly ceased to beat, nor could animation be restored. The placenta followed in ten minutes. This patient had a very good recovery.

CASE X. (Case XXIII. in Table.)—Esther Morris, æt. 21. First pregnancy; a full strong woman.

Labour set in on November the 11th, 1844; on the 13th the pains were very feeble and the head had made no advance

for some hours. The pulse was 88, and the foetal heart 160, and strong.

At 22 minutes past 11 o'clock, she had a dose of ergot (3ss. gr. xv.) In twelve minutes the pains became stronger.

Twenty minutes after the dose, pulse 96; uterine action nearly constant; foetal heart varying from 96, to 108, full, and both strokes distinctly audible. The ergot was now repeated 3ss. gr. x.)

Ten minutes past 12 o'clock. Pulse 108, and full; foetal heart 140, and of its usual strength; uterine action not so good; the head has somewhat advanced.

Twenty-two minutes to 1 o'clock. The pains not so frequent; pulse 96, full; foetal heart 128; sometimes down to 88, and not so distinct.

One o'clock. The head more advanced; the pains returning at short intervals.

Quarter to 2 o'clock. The foetal heart nearly inaudible, and beating about 80.

At 10 minutes past 2 o'clock, a male child was expelled; the heart had nearly ceased to pulsate, but by artificial respiration it got up to 120.

All efforts failed in restoring animation, although the heart, by the aid of artificial respiration, continued to pulsate for upwards of an hour from delivery, and the child, when irritated, moved its limbs. On the second day after delivery the pulse was 92. The uterus well contracted, and the lochial discharge abundant.

Inflammation of the uterus set in on the third day, with pain, no rigor, and the lochial discharge became scanty; from which, in the course of a few days, she recovered, and was discharged quite well.

CASE XI. (Case XXXI. in Table.)—Mary Monaghan, æt. 28; first pregnancy. Labour set in on the 23rd of August, 1843. For about twelve hours the head, which had de-

scended so low as nearly to rest on the perineum, made little advance from want of good expelling pains.

On the 31st, at a quarter to 11 o'clock, A. M., a dose of ergot was given. The pulse at the time was 104, and the foetal heart 152 and strong. In ten minutes uterine action became increased; the pulse fell to 96, and the foetal heart to 68. In twenty minutes the medicine was repeated. At half past 11 o'clock the pains were nearly continuous, the pulse 120, and the foetal heart very indistinct, but no advance in the labour. At a quarter to twelve o'clock, noon, an hour from having the ergot, she was delivered by the forceps of a male child. The heart continued to pulsate, but animation could not be restored. In sixteen minutes all action of the heart ceased. The placenta came off favourably soon after the birth of the child. There was slight inflammation of the uterus in this case, which yielded to treatment, and in fourteen days she left the hospital quite well.

CASE XII. (Case XXXII. in Table.)—Mary Kelly, æt. 36, a *tolerably* healthy-looking woman, but thin; first pregnancy. Labour set in on December 26th, 1844, at 4 o'clock, A. M. At 8 o'clock, A. M., on the same day, the membranes ruptured, and at noon the os uteri was fully dilated. The ear of the child could be reached at 8 o'clock, P. M. From want of good expelling power, the head remained nearly in the same situation until 27 minutes past 11 o'clock on the 27th, when a dose of ergot was given (3 ss. gr. xv.), the pulse being 76, and the foetal heart 144, and distinct. In eight minutes the pains were very much increased in strength and duration; thirteen minutes, very little interval between the pains, the head pressing on the perineum; twenty minutes, pulse unaffected; foetal heart reduced to 92, irregular, full, and intermitting. The ergot repeated (3 ss. gr. x.)

12 o'clock.—The strength of the pains very much reduced: at 5 minutes past 12, the vectis was passed up, and the

child, a male, extracted. Its heart was beating very slowly, and it gasped a few times but could not be restored. The placenta came off in a few minutes (ten) after the birth of the child. This woman had an attack of metritis, but ultimately recovered.

CASE XIII. (Case XXIV. in Table).—Honor Greene, æt. 27. First pregnancy.

The head remained in the same situation, the ear being within reach for several hours. The pains, though regular in their returns, were yet very weak and inefficient. At 12 minutes past 2 o'clock, the pulse being 88, and the foetal heart 140, and strong, a dose of ergot was given (3ss. gr. x.), which acted in twelve minutes. In fifteen minutes the pains were nearly without intermission, and no change had taken place in the pulse or foetal heart. At 23 minutes to 3 o'clock, the pains continued very frequent, but were not strong. She now had a second dose. The pulse at a quarter to 3 o'clock was 80, the foetal heart 84, full, and not intermitting. The child, a female, was extracted by the vectis at 3 o'clock, but was quite dead.

A second child being in utero, its membranes were ruptured, and the foetal heart found diminishing in frequency. So soon as the breech (the presenting part) came low enough, it was hooked down by the finger, and the child extracted.

The second, also a male, was born thirty-five minutes after the first; all pulsation of the heart had ceased on delivery. This patient had a good recovery.

CASE XIV. (Case XXXIX. in Table).—Agnes Cavanagh, 30. First pregnancy.

Labour set in on November 24th, at 2 o'clock, P. M., and the membranes then ruptured.

On the 25th, at 2 o'clock, A. M., the os uteri was fully dilated, and the head entering the pelvis. At 2 o'clock, P. M., uterine action very weak; the pains returning at lengthened intervals, and causing no advance in the labour. The tip of

the ear to be felt. Pulse 72. Foetal heart beating vigorously, 140 in the minute. The patient now had a dose of ergot (half dr. infusion, and gr. x. of the powder). Uterine action seemed to be excited by it in ten minutes. In twenty minutes after its exhibition, the pulse fell to 60 in the minute; foetal heart 140, and not changed in its character. A second dose now given. Five minutes to 3 o'clock. Pulse 68; foetal heart 132, seemingly weaker. The pains coming on at regular intervals, but not strong. Half-past 3 o'clock. Pulse 76; foetal heart 120, very feeble; uterine action not so strong. In order to stimulate the uterus still more, the patient was directed to walk, and bear the pains in the upright position. A little inclination to vomit; the pains improved by moving about. Five o'clock. Pulse 64; foetal heart 116; the second stroke very faintly heard. In three hours from the exhibition of the first dose, the foetal heart ceased to pulsate; and some time after delivery, was accomplished by means of the crotchet. The placenta came off favourably. She recovered slowly, and was discharged on the 22nd of December, 1843.

CASE XV. (Case XL. in Table.)—Jane Thompson, æt. 25. First pregnancy.

On the 14th of June the membranes ruptured. The os uteri was fully dilated on the 15th, at 9 o'clock, A. M.; and at 8 o'clock in the evening the ear could be felt, though still the head was high in the pelvis. Uterine action had nearly ceased. The pulse was 120; the foetal heart 144, feeble, and sometimes intermitting; her tongue was clean and moist, and the bowels free. A dose of ergot was now given (3ss. gr. x.) In fifteen minutes the pulse fell to 116, and was full and soft. The foetal heart so feeble as not to be reckoned, and intermitting very much. Uterine action not increased. A second dose was given in twenty-three minutes after the first. For about fifteen minutes the pains *seemed* improved, then became more frequent, but did not cause any advance. At 6 minutes to 9

o'clock, the foetal heart beat 132, and was sometimes pretty regular; pulse 128, and soft. Half past 9 o'clock. The pains very constant, but scarcely any advance. Foetal heart nearly inaudible, beating occasionally two or three strokes. Within two hours from receiving the ergot the foetal heart ceased. It was necessary to deliver by the perforator, as she became delirious a little before 10 o'clock; the pulse then was 100. The placenta had to be removed from the uterus by the introduction of the hand, owing to inertia.

The patient died of phlebitis on the 24th of June.

CASE XVI. (Case XLVII. in Table).—Anne Smyth, æt. 30. A delicate little woman. First pregnancy.

Labour commenced at 6 o'clock, P. M., on the 28th of January, 1845. The os uteri was nearly fully dilated on the 29th, at 10 o'clock, P. M.

On the 30th, at 6 o'clock, A. M., the membranes ruptured; and at 9 o'clock the same morning the ear was within reach of the finger, and the head advancing very slowly from want of sufficient uterine action. At 22 minutes to 4 o'clock, P. M., the pains were nearly suspended; the head had made no more advance; and a yellowish discharge began to flow from the vagina. She now had a dose of ergot, the pulse being 88, and the foetal heart 140, and tolerably strong. In twenty minutes no increase of uterine action followed. The pulse and foetal heart remained unaffected. A second dose was now given. Thirty minutes: No increase of pains. The pulse the same. The foetal heart nearly inaudible, fluttering, and very slow. In a very few minutes more the heart's action entirely ceased. During delivery, which was effected by the crotchet, the uterus acted so feebly, that it was feared there should have been hæmorrhage; none, however, took place. The placenta had to be pressed off by the hand applied over the uterus. The uterus remained very large for some days after delivery, and the discharge was dark-coloured. The patient afterwards did well.

As the Tables elucidate so fully the result of the cases, I think it unnecessary to detail more than the notes of a few as illustrative of the peculiar effects of the medicine.

EXPLANATION OF THE TABLES.

TABLE I.—Contains cases in which the children were expelled by the uterine efforts *alive*.

TABLE II.—Cases in which instruments were used to perfect the delivery, after the administration of ergot: the children all born alive.

TABLE III.—Cases where the children were expelled by the uterine efforts *dead born*.

TABLE IV.—Cases in which, owing to the depression of the foetal heart, caused by the ergot, the forceps or vectis was used, but failed in saving the children.

TABLE V.—Cases in which delivery was effected by the crotchet: *the foetal heart having ceased* after the exhibition of the medicine.

TABLE I.—Cases in which the Uterus expelled the Children alive.

No. of Case.	No. of Pregnancy.		Age of Patient.		Sex of Child.		Effects how soon perceived on Uterus.	Effect on Pulse.			Effect on Fœtal Heart.			Hours in Labour.		Hours from having Ergot.	Expulsion of Placenta.	State of Lochia.	State of Uterus.	OBSERVATIONS.
	M.	F.			None.	Fell.		Rose.	None.	Rose.	Fell.	Rose.	1st stage.	2nd stage.						
1	3	30	1	..	12	Min.	..	..	1	1	1	..	50	24	2 30	H. Min.	Trouble- some.	Dark.	Remained large.	Os uteri closed on placenta. Metritis. Recovered.
2	2	35	1	..	12		..	..	1	..	..	1	30	20	1 5		Favour- able.	Natural.	Natural.	Recovered.
3	3	30	..	1	15		..	..	..	..	..	..	16	11	1 0		Do.	Do.	Do.	Head on perineum 10 hours.—Recov.
4	1	25	..	1	25		..	..	1	..	1	..	40	24	2 20		Do.	Do.	Do.	Recovered.
5	1	25	.	2	10		..	1	..	..	1	..	28	13	1 15		Do.	Do.	Do.	Twins; both natural presentations; second child quarter of an hour after first. Recovered.
6	1	20	1	..	25		..	1	..	..	1	..	28	16	0 45		Do.	Do.	Large.	Head nearly in same situation 12 hours. Recovered.
7	1	25	..	1	15		..	..	1	..	..	1	6	0	0 40		Do.	Do.	Natural.	Twins; first, foot and funis. Ergot given to expel second child. Head presen. R.

TABLE II.—Cases in which the Children were born alive by Application of the Forceps and Vectis.

No. of Case.	No. of Pregnancy.		Age of Patient.		Sex of Child.		Effects how soon perceived on Uterus.		Effect on Pulse.			Effect on Fœtal Heart.			Hours in Labour.		Hours from having Ergot.	Expulsion of Placenta.	State of Lochia.	State of Uterus.	OBSERVATIONS.
	M.	F.	Min.	Rose.	Fell.	None.	Rose.	Fell.	None.	Rose.	Fell.	None.	1st stage.	2nd stage.							
8	2	40	1	..	None.	..	1	..	1	..	1	..	27	17	0 40	H. Min.	Favourable.	Natural.	Natural.	Forceps.—Recovered.	
9	1	26	1	..	30	1	..	1	..	1	..	1	..	28	14	1 0		Do.	Do.	Vectis.—Recovered.	
10	2	30	..	1	None.	..	1	..	1	..	1	..	28	17	1 30		Do.	Do.	Do.	Forceps.—Recovered.	
11	1	25	1	..	7	..	1	..	1	1	1	..	36	13	0 50		Do.	Do.	Do.	Do.—Fœtal heart 100; child died three hours after birth.—Recovered.	
12	1	20	1	..	10	..	1	..	1	..	1	..	25	16	1 0		Do.	Do.	Do.	Vectis.—Fœtal heart 102; head 12 hours on perineum.—Recovered.	
13	1	21	..	1	23	..	..	..	1	..	1	..	34	23	2 0		Do.	Dark.	Large.	Do. (inflammation of uterus)—R.
14	3	30	..	1	None.	..	1	..	1	..	1	..	26	12	0 30		Do.	Natural.	Natural.	Forceps.—Recovered.	

TABLE III.—Cases where the Uterus expelled the Children dead-born.

No. of Case.	No. of Pregnancy.		Age of Patient.		Sex of Child.		Effects how soon perceived on Uterus.		Effect on Foetal Heart.			Effect on Pulse.			Foetal Heart ceased.		Hours in Labour.		Hours from having Ergot.	Expulsion of Placenta.	State of Lochia.	State of Uterus.	OBSERVATIONS.
	M.	F.	None.	Fell.	Rose.	None.	Fell.	Rose.	None.	Fell.	Rose.	None.	Fell.	Rose.	H. Min.	1st stage.	2nd stage.						
15	1	2	31	..	10	Min.	..	1	..	..	1	..	..	1 0	79	..	H. Min. 1 30	Favourable.	Natural.	Natural.	Pulse depressed during recovery. Twins; both natural. 1st, face to pubes; half hour interval.—R. Child could not be restored. R. Recovered.	
16	2	..	28	1	30	..	..	1	..	..	..	..	..	2 0	25	..	2 0	Do.	Do.	Do.	Do.	Recovered.
17	1	1	34	..	15	..	..	1	..	..	1	..	..	2 30	36	27	3 nearly	Do.	Do.	Do.	Do.	Recovered.
18	3	1	27	..	10	..	..	1	..	..	..	..	..	1 0	26	18	1 0	Do.	Dark.	Large.	Large.	Recovered.
19	1	..	28	1	30	..	..	1	..	..	..	..	..	1 45	60	16	1 45	Do.	Natural.	Natural.	Natural.	Second position.—Recovered.
20	2	1	33	..	7	..	..	1	..	1	..	..	..	0 25	30	16	0 25	Do.	Do.	Do.	Do.	Second position; foetal heart had nearly ceased at birth.—R. F. heart had nearly ceased at birth. (Infl. of uterus).—R. Recovered.
21	1	..	18	1	10	..	..	1	..	1	..	..	..	0 20	30	14	0 20	Do.	Dark.	Do.	Do.	F. heart continued to pulsate for about one hour, by application of artificial respiration. (Infl. uteri).—Recovered.
22	3	1	34	..	15	..	..	1	..	..	1	..	..	1 40	26	24	1 40	Do.	Natural.	Large.	Large.	Delay in second stage.—R.
23	1	1	21	..	12	..	..	1	..	..	..	..	..	3 0	42	..	2 30	Do.	Scanty.	Do.	Do.	Pulse first fell, then rose.—R. Pulse depressed; 88 for some days.—R.
24	1	..	27	1	10	..	..	1	..	..	1	..	..	1 30	27	..	2 0	Slow.	Pale and scanty.	Do.	Do.	Delay in second stage.—R.
25	1	..	27	1	13	..	..	1	..	..	1	..	..	1 45	27	14	1 45	Favour.	Natural.	Natural.	Natural.	Pulse first fell, then rose.—R. Pulse depressed; 88 for some days.—R.
26	1	..	22	..	10	..	..	1	..	..	1	..	..	2 0	32	17	2 0	Do.	Brown & scanty.	Large.	Large.	Pulse depressed; 88 for some days.—R.
27	1	1	24	..	12	..	..	1	1	..	1	..	..	2 30	29	12	4 0	Do.	Natural.	Natural.	Natural.	Delay in second stage.—R.
28	1	1	23	..	15	..	..	1	..	..	..	..	..	1 35	28	12	1 35	Do.	Scanty.	Large.	Large.	Inflammation of uterus.—R.
29	2	1	22	..	20	..	..	1	..	1	..	..	..	1 0	36	12	1 0	Do.	Natural.	Natural.	Natural.	Recovered.

TABLE IV.—Cases in which the Forceps and Vectis were applied, but the Children dead-born.

No. of Case.	No. of Pregnancy.		Age of Patient.	Sex of Child.		Effects how soon perceived on Uterus.	Effect on Foetal Heart.			Effect on Pulse.			Hours in Labour.		Hours from having Ergot.	Expulsion of Placenta.	State of Lochia.	State of Uterus.	Foetal Heart fell to	OBSERVATIONS.
				M.	F.		None.	Fell.	Rose.	None.	Fell.	Rose.	1st stage.	2nd stage.						
30	2		30	1	..	Min. 25	..	1	..	..	..	1	36	13	H. Min. 1 55	Favourable.	Natural.	Natural.	104	Vectis.—Recovered.
31	1		28	1	..	10	..	1	..	..	1	..	30	15	1 0	Do.	Scanty.	Large.	68	Forceps.—Upwards of 12 hours nearly <i>in situ</i> .—Recovered.—(Infl. of uterus). Vectis.—Gasped. (Infl. uteri. R.
32	1		36	1	..	8	..	1	..	1	..	..	32	24	0 40	Do.	Dark.	Do.	92	Vectis.—Gasped. (Infl. uteri. R.
33	1		30	..	1	15	..	1	..	1	..	..	36	14	1 30	Do.	Natural.	Do.	80	Vectis.—Gasped. Heart got up to 120 by art. respiration.—R.
34	1		27	2	..	12	..	1	..	..	1	..	36	27	2 0	Do.	Do.	Natural.	84	Vectis.—Twins; first nat., face to pubis; second, breech; 35 min. interval.—Recovered. Vectis.—Gasped.—Recovered.
48	1		33	..	1	15	..	1	..	1	..	..	33	9	3 0	Do.	Do.	Do.	..	

TABLE V.—The Children dead. Delivery effected by the Crotchet.

No. of Case.	No. of Pregnancy.	Age of Patient.	Sex of Child.		Effects how soon perceived on Uterus.	Effect on Pulse.			Hours in Labour.		Hours from having Ergot.	Expulsion of Placenta.	State of Lochia.	State of Uterus.	Fœtal Heart ceased after Ergot.	OBSERVATIONS.
			M.	F.		None.	Fell.	Rose.	1st stage.	2nd stage.						
35	2	34	1	..	10	1	..	38	18	H. Min. 4 30	Favourable.	Pale.	Natural.	Natural.	3 0	Perforation.—Recovered.
36	1	27	..	1	20	..	1	50	16	2 10	Do.	Foul.	Large.	Large.	1 10	Do.—Inflammation of uterus.—Recovered.
37	5	35	1	..	22	1	..	30	22	no good action.	Hæmorrh. bef. & aft. placenta.	Do.	Do.	Do.	6 0	Do.—Uterus acted very feebly.—Recovered.
38	1	28	1	..	15	1	..	36	24	4 0	Favour.	Brown.	Do.	Do.	3 0	Do.—Recovered.
39	1	30	1	..	10	..	1	35	17	4 0	Do.	Unhealthy	Natural.	Natural.	3 0	Do.—Recovered.
40	1	25	..	1	15	..	1	37	13	2 0	Retained.	Foul.	Large.	Large.	2 0	Do.—Pulse depressed for some time.—Died of phlebitis.
41	1	30	..	1	20	1	..	58	14	3 30	Favourable.	Natural.	Do.	Do.	2 30	Do.—Recovered.
42	1	36	1	..	15	1	..	28	18	2 45	Do.	Do.	Natural.	Natural.	1 45	Do.—Inflammation of uterus.—Recovered.
43	1	26	1	..	30	..	1	60	14	3 30	Do.	Unhealthy	Large.	Large.	2 30	Do.—Died on sixth day of inflammation of peritoneum and uterus.
44	1	23	1	..	25	..	1	48	13	3 0	Do.	Natural.	Natural.	Natural.	2 0	Do.—Recovered.
45	2	28	1	..	15	1	..	46	23	6 0	Do.	Do.	Do.	Do.	2 30	Do.—Recovered.
46	1	25	..	1	30	..	..	25	12	2 0	Do.	Do.	Do.	Do.	1 0	Do.—Recovered.
47	1	30	..	1	none	1	..	40	12	2 30	Do.	Dark.	Large.	Large.	0 35	Do.—Recovered.

BIBLIOGRAPHIC NOTICES.

Practical Remarks on some exhausting Diseases, particularly those incident to Women. By SIR JAMES EYRE, M. D., &c. 12mo. pp. 75.

THIS little book the author has published to lay before the Profession the favourable experience he has had of the oxyde of silver in several debilitating diseases to which women are especially, though not exclusively liable: we shall allow him to introduce the subject to the reader.

“ The little work now presented to the public may be adduced as one instance of the advantage of attending to the periodical literature of the day. During seven years’ practice as physician to a well-supported public institution in this metropolis, the writer encountered, in an augmented number of instances, a difficulty which he had often before experienced, namely, that of arresting the atonic species of uterine hæmorrhage, which, whether as a result of unduly prolonged menstruation, as a sequela of labour, or abortion, as occurring during pregnancy, or as caused by organic lesion, will, if not restrained, exhaust the powers of the constitution, and eventually destroy the patient. In searching for information and guidance, during the summer of 1841, his attention was excited by an article in one of the leading hebdomadals, written by Charles B. Lane, Esq., then a London surgeon, on some newly-ascertained qualities of the oxyde of silver, not only in the cases just alluded to, but in certain other ailments: this gentleman refers to a Paper published by him a year before in a Quarterly Review, a perusal of which tells us that M. Serre, of Montpellier, believes it to possess power as an anti-syphilitic, the dose being from half a grain to six grains in twenty-four hours; adding, that it is not a caustic, when applied outwardly, but differs as much from nitrate of silver as chloride of mercury does from the bichloride. Its usefulness was proved in gastrodynia, pyrosis, menorrhagia, hæmorrhage from the bowels, in diarrhœa, in one case of irritable bladder, and in another where there was colliquative perspiration; its effects are stated to have been speedy, and produced

without a single bad symptom. Dr. Golding Bird is reported to have tried it in one hundred cases, and ‘thinks well of it in menorrhagia,’ considering its properties tonic, and, to a certain degree, sedative; Dr. Clendinning, physician to the St. Mary-le-bone Infirmary, thought it useful in epileptic and gastralgie affections; Dr. Ryan also gave the same opinion; lastly, a statement of Mr. Lane’s implies that in two instances it seemed to facilitate impregnation, in consequence, it is presumed, of its inducing a healthier state of the uterus. The result of the writer’s observations has been fully confirmatory of the high character here given of the oxyde; it has been administered by him in a large number of cases, the records of most of which have been kept, and it is now intended to present as full a report of them as may enable just and candid judges to compare its action with other remedial means which have been too often hitherto ineffectually employed.”—pp. 2–5.

Sir James says, he has found half a grain of the oxyde of silver, three times a day, uniformly succeed in curing pyrosis; he administers at the same time two of Dr. Hamilton’s pills (compound of Ext. Colocynth. c. ℥ii. Ext. Hyos. c. ℥i. in pil. xii.) every night. He gives numerous cases illustrative of his success, but we will leave the reader to consult them in the work himself. He next advances instances of similar successful results in hæmatemesis and hæmoptysis, but he does not exclusively confine himself to the oxyde of silver alone, but assists its administration by bleeding, blistering, and other means; and in his details of treatment he shews himself to be a judicious physician. He next gives a *resumé* of the various methods of treating menorrhagia, followed by a list of cases in his own practice, where he had found the oxyde of silver of great benefit. Should the remedy prove as successful in the hands of others as it has done in his own, the Profession will have every reason to be grateful to Sir James Eyre for having brought so useful a remedy to their notice. He sums up in the following words:

“ This, then, concludes the detail of the majority of those instances in which the oxyde of silver has been found so superior to all other means employed by the writer during an active professional life of more than thirty years; and he feels himself fully justified in inviting others to test a medicine by the success of which their usefulness may be increased, and the care which he has taken in arranging and presenting his cases more than amply rewarded. That it is a tonic and a sedative, as Dr. Golding Bird believed in 1840 and 1841, there can be no doubt; that is a safe and efficient astringent there is good evidence to prove; the property of a specific is not assigned to

it, for all know how very few of our remedial agents possess that character.

“Every experienced physician will admit that, owing to idiosyncrasy and diversity of constitution, the same disorder presents a different aspect in almost every patient, and hence that each case must be individually studied, and our remedial measures varied in order to meet its peculiarities. John Abernethy, of glorious memory (who taught his pupils to think for themselves, and not to submit without inquiry to any man’s dictum), was accustomed to say to them quaintly and characteristically, ‘Gentlemen, there is no such thing as a remedy for a disease, excepting sulphur for a complaint which is never alluded to in good society, and (perhaps) mercury in another disorder of, at least, equally bad repute.’

“It will have been observed that the dose of the oxyde of silver employed by the writer in the foregoing cases, never exceeded *three* grains a day, instead of six, as given on its first introduction, and that its employment is not recommended where febrile action exists in any considerable degree. In addition to its value in gastrodynia, in pyrosis, in hæmoptysis, in hæmatemesis, and in the first and second classes of menorrhagia of Dr. Fleetwood Churchhill, it will be found to be productive of infinite benefit in restraining, when absolutely necessary, hæmorrhage proceeding from the intestinal canal, obstinate chronic diarrhœa, colliquative perspirations, leucorrhœa, and other maladies, in the treatment of which the writer is at the present time extensively testing its efficacy.”—pp. 73–75.

Facts connected with the Social and Sanitary Condition of the Working Classes in the City of Dublin, with Tables of Sickness, Medical Attendance, Deaths, &c. By THOMAS WILLIS, F. S. S. Small 8vo. pp. 59.

THIS laborious little work contains a mass of information particularly interesting to the medical practitioner. Mr. Willis was induced to enter on this most irksome but (much to his credit) self-imposed task of collecting statistical facts respecting the sanitary condition of the labouring population of the city of Dublin, by the controversy which took place as to the real amount of mortality among the infants in the North Dublin Union, and whether the per centage of deaths was greater within than without the walls of that Institution, in a similar class of people. It appeared to ourselves at the time, that the mortality among the wretched children was greater within; but Mr. Willis, after toiling through hundreds of families, has come to a different conclusion, and believes that in the wretched loathsome rooms and hovels of

the labouring poor of Dublin the mortality, is fully as great.

“ After immense and continued personal labour, I arranged some tables, formed on an infant population of beyond 12,000, indiscriminately taken from house to house, and from cellar to garret, principally in the poorer streets of St. Michan’s parish. I went through every house in these streets, and through every room in each house, omitting none, save some few that were occupied by parties so apparently respectable, as to forbid any inquiries of this nature. I in this way obtained results upon the great number of 12,280 children.

“ The table of Infant Mortality is formed from the number of children baptized, and does not contain a single still-born child ; for every figure in this table I have a family registered, and therefore its accuracy cannot be questioned, even by the most sceptical. The inquiry at the workhouse was on children *under* the age of two years. I found the mortality at that age to vary from 32 to 36 per cent., but in some wretched localities, even above 50, and if the most destitute were selected, the mortality would be much greater.

“ These facts, accompanied by some explanatory tables, were submitted to the Board of Guardians of the North Dublin Union, in February, 1843, and were thought worthy of being placed on the minutes of their proceedings; since which time no allusion has been made to an excess of mortality amongst the infants, either at that Board, or in any of the medical periodicals.

“ The following table is deduced from accurate inquiry amongst the working classes *not* destitute, and shews the mortality up to the age of five years :

In the 1st month, 5.38 per cent.				In the 9th month, 2.86 per cent.			
2nd	„	2.27	„	10th	„	1.60	„
3rd	„	2.18	„	11th	„	1.97	„
4th	„	1.43	„	1st year		13.01	„
5th	„	1.35	„	2nd	„	12.96	„
6th	„	2.51	„	3rd	„	8.17	„
7th	„	1.46	„	4th	„	6.42	„
8th	„	1.58	„	5th	„	4.56	„

It is not our intention to enter fully into the very curious and important questions which Mr. Willis’s investigations and their results naturally provoke, we hope they will receive the attention they merit from those more versed in statistical calculations than ourselves ; we will merely make a few such extracts as may prove interesting to our readers, who will, no doubt, thereby be induced to consult the work itself, a perusal of which will amply repay the Dublin surgeon or physician, particularly those connected with visiting dispensaries. With respect to mortality clubs and benefit societies, he says :

“ They have become very numerous, and in conjunction with the temperance movement, have greatly improved the social condition of working men, begetting a spirit of independence and reliance on their own exertions, to which they were hitherto utter strangers. By the payment of a small sum weekly towards these societies, a member becomes entitled to medical attendance and medicine for himself and family,—to maintenance for himself during illness,—and, in the event of the death either of himself or wife, a sufficient sum is assured for decent interment, and a further sum is usually made up for the survivor by the contributions of each member of the society. After allowing for these and some other contingent deductions, the sum remaining in hands is equally divided amongst the surviving members previous to each Christmas.

“ All the concerns of these societies are managed by committees annually elected from amongst the members; persons seeking admission must appear before the committee, and answer all questions as to age, health, weekly earnings, &c. and in addition must have a certificate of health from the physician of the society. On the whole, then, the members of these societies are (of their class) as truly *select* lives as are usually submitted for insurance. The average age of the members is certainly *under* 35 years. The monetary concerns are managed with the most watchful care; but the very many necessary details of their proceedings so interesting for statistical purposes, are altogether unattended to, or so loosely kept that no reliance can be placed on them. The ages of members, although narrowly attended to on admission, are rarely inserted on their minutes; neither would the sickness or even the deaths of the members, but for the demands in such cases on the funds of the society.

“ Very many of these societies have the services of respectable medical men at a ruinously low rate of payment. Four shillings is about the average sum for each member, and for this sum it is expected that every *individual of each member's family* will have attendance and medicine for the entire year. It may be interesting to the Profession to state the quantity of attendance, &c. which these families usually require.

“ The registry from which the following abstract is taken, has been carefully kept for the last three years; implicit reliance may therefore be placed on its accuracy.

“ A TABLE shewing the *average* Medical Attendance for the Years 1842, 1843 and 1844, on 1000 Families belonging to Benefit Societies—in cases of slight Indisposition, the Members attending at the Physician's Residence, and of serious Illness having his Attendance at their own Homes.

	Visited at their own Homes.	Prescribed for at Physician's Residence.	Total prescribed for at their own Homes and at Physician's Residence.
January, . . .	228	489	717
February, . . .	173	473	646
March, . . .	170	496	666
April, . . .	129	484	613
May, . . .	148	523	671
June, . . .	139	510	649
July, . . .	99	444	543
August, . . .	107	501	608
September, . .	144	469	613
October, . . .	158	462	620
November, . .	162	521	683
December, . .	153	574	727
	<hr/> 1810	<hr/> 5946	<hr/> 7756

“ A TABLE shewing the average Sickness, in Months, experienced by 7,180 Members of Provident Societies, whose average Age is *under* 35 Years; and also shewing the Number of those who are *constantly* sick in each Month, reduced to an average for 1,000 Members.

	Sickness in Days.	Number of Members constantly sick.
January,	780	25.22
February,	693	24.75
March,	681	22.00
April,	546	18.00
May,	585	18.87
June,	507	16.90
July,	543	17.51
August,	468	15.00
September,	508	16.93
October,	576	18.58
November,	559	18.63
December,	602	19.42

“ We thus find that the average *annual* amount of sickness experienced by *each member* is 7.048 days.

“ The mortality experienced amongst the members of those societies has been 1.44 per cent., and for the wives of those members the mortality has been 1.12 per cent.; or, in other words, that one member dies annually in every 66, and that for every 100 deaths of males, there are only 77.88 of females.

“ This is in accordance with the acknowledged and well-ascertained truth, that women are longer lived than men, and that a much

greater proportion of married men die than of women. It is stated by Short, that '15 married men die for 10 married women;' and again, he says, 'it is near 9 to 3 that the husband dies before the wife, and is the reason that a greater number of women than men make second or third adventures.'

"The following Table shews the portions of each year in which the sickness and mortality of members of these societies, and of medical attendance on the members and their families, are greatest, the months in which each of these events is most frequent being placed first in order in the proper column, and these months being formed into periods of three months each, shew the quantity of sickness and mortality experienced by these 1,000 members, and also the attendance on the members, and the families of members, for each quarterly period.

Sickness in Days.	Mortality.	Medical Attendance.
January, } February, } 2,154 March, }	January, } March, } 5.292 February, }	December, } January, } 2.127 November, }
December, } May, } 1,763 October, }	October, } May, } 4.317 November, }	May, } March, } 1,986 June, }
November, } April, } 1,648 July, }	December, } August, } 2.785 April, }	February, } October, } 1,879 September, }
September, } June, } 1,483 August, }	June, } July, } 2.089 September, }	April, } August, } 1,764 July, }

"We thus find that of 1,000 members, there are 19.32 constantly sick during the entire year, being in the proportion of 23.93 the first or most sickly quarter, 18.95 the second quarter, 18.11 the third quarter, and that in the three months that furnish the least sickness, there are 16.29 constantly sick.

"The medical attendance on those 1,000 members is most severe in the months of November, December, and January; in which three months the average daily attendance amounts to 23.12, while even in the quarter requiring least attendance it amounts to 19.17.

"The average *daily attendance* for the entire year for these members, and the families of these members, is 21.25; and although, as before mentioned, the remuneration for this almost constant attendance is little more than nominal, yet it may be remarked, that until the establishment of these provident societies, and the habits of order and economy which are invariably attendant on their formation, the parties by whom they are composed scarcely ever, at any prior period of their lives, paid in any way for medical attendance, but in slight illness became dependent on casual relief from the medical men of the district; and in cases of severe illness very usually became inmates of some of the many hospitals."

How generally true the following description is of the dwellings and habits of many of the lower order of residents in Dublin! Having for years laboured as visiting surgeon to an extensive dispensary in the city, we can affirm, that the same want of cleanliness, the same misery, prevails in other districts as well as the parish of St. Michan's.

Mr. Willis says :

“ The parish of St. Michan, in which the greater part of these inquiries was made, is the central parish of that part of the city north of the river Liffey, and from its situation appears favourably circumstanced for health. The greater part of this parish has a dry gravel bottom, with a gradual ascent from the river to every part. There is no obstruction to the natural drainage, the streets having a good fall, and being all well laid down, with proper inclinations for the discharge of surface water. There is one large sewer running through the centre of the parish, and very nearly its entire length, through which the water of the River Bradogue runs ; there are very few private or branch drains. A large proportion of the houses have *not* necessaries, and those that have are in very few instances connected with a sewer, but must be emptied by carrying out through the house. There are no public places, nor urinaries ; water-closets are scarcely known, unless in public buildings ; there may not be above a dozen in the entire district. There is a great want of water, not from any absolute scarcity, it being supplied to the district for about four hours on three days in each week. Of these houses let to weekly tenants, not one in ten has the water conveyed into it by branch from the street main. The tenants in such cases are dependent for their supply on the public fountain, which is often at a considerable distance from their residence. The water is not constantly on in these fountains. The wretched people have no vessels to contain a supply ; the kettle and the broken jar are the only ones to be seen in these abodes of misery. Nothing marks their poverty more than when congregating round the public fountain, struggling to have their little supply. There are many lanes and courts in which a tumbler of water could not be had fit for drinking. Even for the purpose of cleanliness a scanty supply is with difficulty to be had, and appears of such value, that it is rarely thrown out until after being put to several uses. I have frequently noticed this filthy stuff remaining within the rooms, and have been invariably told that it was *yet* wanted. It had first been used, perhaps, to wash the man's shirt, and some little white linen ; it was then used to wash coarser things, and even again put in requisition to mop out the room floor, or stairs. These facts are not confined to the very poor. The most offensive stench to be met with is that which emanates from these filthy suds ; and I find that when these rooms or stairs are ever washed, it is with this noisome semi-fluid poison.

“ There are within and on the boundary of the parish, several large open spaces in which markets are held for the sale of country

produce—Smithfield market on the west; a market in the most densely populated part of the parish for the sale of vegetables for the entire city. There are also large and separate markets for the sale of eggs, butter, poultry, potatoes; all these, with the exception of the vegetable market, stand upon large open spaces, and are kept as free from filth as such places well can be.

“The scavengers are incessantly at work in the streets occupied by the poor; indeed I believe they sweep the streets of the entire parish daily, *not* excepting Sunday. In some parts, if this cleansing was neglected for a single day, the nuisance would become intolerable, as, from the want of branch sewers, all the filthy water of the houses must be discharged into the streets.

“The population of this parish is denser than any other parish in Dublin. The following comparative statement shews that it also far exceeds the most crowded localities, even in London.

London (within the walls) 54,626 inhabitants, living in 7,791 houses, being 7·01 persons to each house.

Total Metropolis,	1,873,676	„	„	250,908	„	„	7·46	„
St. Giles, in the Fields, and St. George's, Bloomsbury,	54,292	„	„	4,959	„	„	10·94	„
St. Andrew, Holborn, and St. George Mar- tyr, Saffron Hill,	38,790	„	„	3,876	„	„	10·00	„
City of Dublin,	232,726	„	„	20,109	„	„	11·57	„
St. Luke's Parish,	4,808	„	„	331	„	„	14·50	„
St. Catherine's,	19,871	„	„	1,365	„	„	14·63	„
St. Nicholas',	11,955	„	„	863	„	„	13·85	„
ST. MICHAEL'S.	22,793	„	„	1,381	„	„	16·51	„

“These 1,381 inhabited houses in St. Michael's parish are returned in the census of 1841 as 610 first class houses, 674 houses of second class, 90 of third class, and 7 of the fourth or lowest class. Although the houses are thus classed, there are very few families having first, second, or even third class accommodation. This will be more fully understood by reference to the house accommodation in the city of Dublin, p. 30.

“There are no gentry within the district, and the few professional men or mercantile traders whom interest may still compel to keep their offices here, have their residences in some more favoured localities. This parish, that within the last thirty years might boast of as large a proportion of professional and mercantile wealth as any in the metropolis, is now the refuge of reduced persons from other districts; and very many of the houses then occupied by respectable traders, are now in the possession of a class of men called ‘house-jobbers,’ who re-let them to poor tenants. These jobbers have no interest in the houses save their weekly rents; the houses, therefore, undergo no repair; the staircase, passages, &c., are all in a state of filth; the yards in the rear are so many depots of putrid animal and vegetable matter; and if a necessary be in any of them, it frequently is a source of further nuisance. The courts and back places are, if possible, still worse, and are quite unfit for the residence of human beings. They are almost all closed up at each end, and communicating with the street by a long narrow passage, usually the hall of

the front house, and not more than three or three and a half feet wide. Pipe-water, lime-washing, dust-bin, privy—these are things almost unknown. The stench and disgusting filth of these places are inconceivable, unless to those whose harrowing duty obliges them to witness such scenes of wretchedness.

“In some rooms in these situations it is not an unfrequent occurrence to see above a dozen human beings crowded into a space not fifteen feet square. Within this space the food of these wretched beings, such as it is, must be prepared; within this space they must eat and drink; men, women, and children must strip, dress, sleep. In cases of illness the calls of nature must be relieved; and when death releases one of the inmates, the corpse must of necessity remain for days within the room. Let it not be supposed that I have selected some solitary spot for this description: no, I am speaking of an entire district, and state facts incontrovertible. I indulge in no theories as to the causes which produce this state of things, but I may state the results. They are—that every cause that can contribute to generate contagion exists here in full vigour, and that disease, in every aggravated form, with all its train of desolating misery, is rarely absent.”

We have not space for any more than the following extract of the preventive plans which the author deems most advisable:

“After detailing such a state of things, it may be fairly asked, what remedies I would suggest for its amelioration. I confess the subject has occupied much of my attention, and although my opinions may not be much valued, I still think it my duty to make them public, did they produce no other benefit than that of inducing those who possess the power and the means of remedying those evils, to devote themselves to the consideration of the best means of so doing.

“In this hope I would suggest, that in cities and large towns there should be some legislative enactment, under which officers of health, or something of a medical police, could be formed, with power to compel the owners of all houses let to lodgers or weekly tenants, to have them thoroughly lime-washed, from cellar to garret, at least every six months, or oftener in cases of contagious epidemics; to have a privy, communicating with a sewer when practicable;* with dust-bin; to have the yard of house paved, with a sufficient fall to privy pit; and to have the water conveyed into each house;† and the cel-

* The 47 George III. cap. 109. sec. 103, enacts, ‘that when any house or tenement within the Circular-road, shall not be provided with a yard, dirt-hole, and other proper receptacle for coal-ashes, rubbish, and other filth of the said house or tenement, or with a sewer communicating with the main sewer, wherever such shall be, then and in every case where any such house or tenement shall be deficient in the said matters, or any of them, the occupier, or next landlord, or landlords, shall incur a penalty of £20.’

† The cost of keeping the water always on in the mains, is so inconsider-

lars paved, flagged, or bricked. The under story of all houses might be used for any purpose, such as kitchen, business store, &c., but *in no instance should an underground room be used as a sleeping room*; pigs, asses, poultry, should not be allowed within the dwellings; and if room-keepers will have dogs they should be subject to some small police tax. The officers of health should have the power of enforcing some such regulations as these, under a penalty recoverable in the most summary manner.

“Public privies and urinaries should be erected in such a manner as to secure some approach to decency. This could be done by having them in the immediate neighbourhood of each police station. They ought to be of sufficient size, with a door at each end, thoroughly ventilated, and seats separated by divisions. These could be got up as a kind of water-closet, and, if properly erected, would be quite free from smell. A metal pan, with neck of sufficient length inserted, and delivering into a tank of water, would answer these purposes; and could be had at very little more expense than the common open privy. In the immediate vicinage of such structures there should be large fountains, with the water constantly on, and deliveries of sufficiently large bore to allow of free use of rinsing, washing, &c. The waste water would be considerable, and should fall into the privy tank, which tank should be connected with the main sewer. I do not presume to put forward the above plan as perfect; I merely suggest it for the consideration of those whose business makes them conversant with the erection of such buildings.

“Public pumps would also be a source of great comfort; pure spring water would be estimated by all classes. Ratty, in his time, enumerates beyond thirty public pumps or wells within the city; I do not know of one at present.”—pp. 48, 49, 50.

There is only one point on which we feel disposed to be at issue with Mr. Willis, and that is the opinion he occasionally expresses against the utility of hospitals; nay, more, he even advances arguments to prove that they are injurious. Now, on this head we may say there is no matter on which we are more certain than the great blessing the hospitals of Dublin are to its poor. Many and extensive as they are, they are still too small for the number of applicants. Where is the labourer with a shattered limb, a wasting abscess, a devouring ulcer, a diseased joint, to find food, rest, and continued attendance, while deprived of the power of earning the means of existence, but in an hospital? Do not the clean bed, the appropriate diet, the skilful nurse, and the experienced physician, do something for the same individual when attacked

able that it was voluntarily proffered by a competing company in the metropolis, as an advantageous arrangement, to save the expenses of water tanks in private houses.—*Sanitary Report*, p. 281.”

with contagious fever, pneumonia, or acute rheumatism? In this respect, therefore, we differ *toto cælo* from Mr. Willis, while we allow him in so many other respects the full meed of industry, skill, and good feeling.

Practical Observations on organic Obstructions of the Œsophagus, proved by a Case which called for Œsophagotomy and subsequent opening of the Trachea ; with accompanying Illustrations. By JOHN WATSON, M.D., Surgeon to the New York Hospital.

THE operation of œsophagotomy is rarely called for; usually when a foreign body sufficiently large becomes impacted in the œsophagus, the dyspnœa is so urgent, and suffocation so impending, that the surgeon feels urged to afford relief to these first, by at once opening the larynx or trachea, for fear that, should he attempt to perform the more tardy operation of opening the œsophagus, before he had opened the larynx the already flickering flame of life might be extinguished. In Dr. Watson's case, which offers some very interesting peculiarities, he had to open the œsophagus to cut through or remove an organic obstruction; he therefore proceeded to the operation without hurry and with matured plans. The case is so unusual, and so full of interesting points, that we shall give full extracts of it.

“ Mr. John Ames, of Easton, Massachusetts, aged 24, of tall and spare habit, previously in the enjoyment of moderate health, was seized in the latter part of October, 1843, with a cough, which lasted for a week or two, and left him about the first of November, with marked difficulty of deglutition. Having always had what he called a narrow swallow, and being subject to frequent turns of choking, he did not at first pay much attention to the present difficulty. But it soon became more serious, obliging him frequently to leave the table while eating, and at length to eat by himself, and with the utmost caution.

“ He consulted a surgeon of Boston, some time during November, who recommended the occasional introduction of a probang, the application of a blister to the throat, and daily inunction with hydriodate of potassa ointment around the neck. This course was followed for a few weeks without relief. About the first of January, 1844, the difficulty had so far increased that he was obliged to relinquish the use of solid food, and to subsist wholly on soft and fluid substances. He came to New York about the middle of January, and the surgeon whom he first consulted here thought he was enabled to pass an ordinary urethral catheter below the seat of obstruction in the throat.

“ The patient came under my care on the 19th of January. At that date it was utterly impossible to pass an instrument of any size beyond the point of stricture. A gum-elastic catheter, introduced by the mouth, came in contact with the obstruction, at the distance of seven inches from the edge of the front teeth of the upper jaw. The patient was living entirely on fluids. He was evidently emaciated and enfeebled; he had a frequent and copious flow of saliva and mucus from the mouth, probably in consequence of the obstruction to the passage of these fluids downwards. The thyroid bodies were larger than usual, and one or two lymphatic glandular swellings existed on either side of the throat, just below the angles of the jaw. The fauces were free from inflammation; the tonsils were not enlarged. The epiglottis could be fairly brought into view by depressing the tongue: but every thing about the fauces, within the range of vision, or within the reach of the finger, was perfectly healthy. The patient had never before suffered from any severe illness. He was one of a numerous family, none of whom were subject to any serious disorder; he had, however, always been rather delicate. His mother had for years supposed he was of a scrofulous diathesis. He had once had an obstinate sore on his chin, which gave rise to this opinion.

“ At my first visit I put him on the use of hydriodate of potassa, grs. v. in solution, three times a day. I directed a blister to be applied on each side of the neck; and as he could swallow only fluids, advised a diet of milk. The blisters were kept open about ten days; and in the mean time I frequently attempted to get an *œsophagus* bougie beyond the stricture, introducing it sometimes through the nostrils, sometimes passing a large hollow instrument down to the obstruction, and leaving it there for an hour together, or passing a smaller instrument through the larger one, but all without success. At times the instrument appeared to clear the stricture and pass onwards; but on withdrawing it I invariably found that this apparent success depended on a doubling of the extremity of the bougie.

“ Failing with simple bougies and catheters, on the 27th of January I passed an armed bougie, through a hollow catheter, down to the stricture, and allowed a piece of lunar caustic, about the size of a pin's head, to melt at the seat of obstruction. This caused some soreness, but did no good. The caustic application was repeated on the day following; it appeared rather to aggravate than to relieve the difficulty.

“ With a view to an operation for getting into the *œsophagus*, beyond the stricture, I now requested a consultation; the patient was accordingly seen, first by Dr. Stevens, then by Drs. Rodgers, Hoffman, and Post, all of whom expressed their conviction as to the necessity of the measure, the obstruction being now so great that the patient was unable to say whether any portion of his fluid food actually passed into the stomach or not.

“ On the 2nd of February, wishing to delay the operation until the arrival of his friends from the country, he was obliged to resort to nutritive injections. For the ten succeeding days, these were

statedly administered through a long gum-elastic tube passed into the colon: they consisted of beef tea, broth containing boiled flour, boiled starch and arrow-root, boiled eggs, and such other articles as could be administered. The injections had a marked effect in recruiting his strength and in assuaging the sense of hunger. They increased the volume of the pulse and the fulness of the capillary vessels; but at times they excited tormina, and occasionally they purged him, especially when they chanced to be too highly seasoned with salt.

“On opening the gullet,” he says, “I found the seat of obstruction just below the incision, and within reach of the point of the finger. But in order to divide it without risking any injury to the ascending thyroid artery, I was obliged to reach it from without, for which purpose, and in order to give more room at the bottom of the wound, I divided the sterno-mastoid muscle transversely, and turned down the upper border of the thyroid gland. In this process the recurrent nerve was brought into view; and one of the branches of the superior thyroid artery, as it entered the gland, was divided, giving rise to the only hæmorrhage worth speaking of during the operation. The vessel was soon secured; and, after much difficulty and delay, the division of the strictured portion of the œsophagus was finally effected by an incision through its walls, of at least an inch and a half in length. The obstruction, so far as I could judge at the time, appeared to depend upon a simple induration and contraction, not over five or six lines wide. The surface of the œsophagus within appeared to be smooth, and of its natural colour. A full-sized stomach tube was now introduced through the wound, and a glass of wine, and afterwards a full meal of boiled arrow-root, were administered.”

The œsophagus was opened on the 12th of February.

“On the following day the patient was free from fever, his pulse was less frequent than on the morning of the operation; his voice was slightly altered by the pressure of the tube or the tumefaction caused by the operation; but he had no difficulty of breathing. The saliva was issuing freely through the wound. No serious symptoms followed the operation. The tube was not disturbed until the end of the sixth day. It was then withdrawn, and another introduced through the left nostril. After this the wound was dressed with adhesive straps and compress, so as to favour cicatrization.

“The second tube, which was about an inch and an eighth in circumference, at first gave him some uneasiness, slightly affecting the left eye, and causing some hæmorrhage from the nose; but these unpleasant symptoms subsided in a few days, after which the patient began to improve rapidly. The second tube was worn twenty-five days. Towards the close of this period it became rather offensive, and produced an unpleasant taste in the mouth. It was removed on the 15th of March, and a fresh instrument of the same size immediately introduced. The wound in the neck had now contracted to

a mere line, and the fistulous opening into the *œsophagus* would scarcely admit a probe. The patient of late had been walking about the house, and, with the exception of one or two turns of indigestion, from overloading his stomach, he had not had a bad symptom. He has not, however, gained much flesh ; he is rather feeble, and his pulse ranges at 100."

After this he became affected with dyspnœa, and the tube had to be withdrawn. When attempted to be re-introduced, such urgent symptoms of suffocation ensued, that the tube was discontinued.

" April 7th. The respiration is much improved ; the pulse at 88 ; the swelling on the right side of the neck has subsided ; the integuments are sore from the action of the iodine. Since last report there has been some slight inflammation about the fauces, which has been mitigated by holding ice in the mouth. This, as it melted, passed downwards without troubling him. He is apparently losing strength for want of food in the stomach, although he makes no complaint of hunger. Another attempt was made to insert the *œsophagus* tube. It passed beyond the larynx without difficulty, but was arrested somewhat lower down. I was now obliged to break open the recent cicatrix in the neck, with the point of a probe, near the centre of the original cut ; and to pass a very small gum elastic catheter obliquely downwards, through the opening thus made, into the *œsophagus*. With my own mouth, by means of this small tube, I forced about a pint of prepared arrow root, with a small quantity of wine, into the patient's stomach. The tube was then withdrawn ; and without much effort I immediately afterwards introduced through the same opening a gum elastic catheter, only one size smaller than the large tubes which he had previously worn. After having his stomach supplied with food, his strength returned to him almost miraculously. He at once got up, dressed himself, and walked down stairs. In the evening I found him at the fireside, smoking his pipe of cinnabar and tobacco ; his pulse fuller than before, and ranging at 100.

" After this period I had no difficulty in supplying the stomach with sufficient food. On one or two occasions there was slight obstruction to the introduction of the tube, owing, perhaps, to the position of the neck at the time, but this was readily overcome by a little careful manipulation. The tube was never afterwards allowed to rest in the wound, but was removed immediately after every meal, and introduced anew, either by the patient himself or some of his friends, whenever he wished to supply the stomach with food.

" April 10th. He is so far restored as to be able to walk out. On the following day he rode out as far as Bloomingdale, a distance of several miles, and conversed much with his brother, who accompanied him. This rather imprudent exposure reinduced the difficulty of breathing. On the following morning (April 12th), his respiration was unusually laboured ; he complained of soreness on the right side of the neck, opposite the larynx. The parts here were tumefied. A

large blister was applied over the swelling. This drew well without relieving him. In the afternoon suffocation was imminent; his lips were purplish, his countenance anxious, his face was bathed in clammy perspiration. I directed fumigations of burning resin, and left him to prepare for opening his trachea. I saw him again soon afterwards with Dr. Buck. The inhalation of the fumes of the burning resin appeared to have produced a favourable effect. His lips were again of their natural colour; and though his respiration was noisy and laboured, he was evidently in much less immediate danger. He had of late been using anodynes at night. I now administered fifty drops of laudanum, and directed the blistered surface to be dressed with mercurial ointment."

On the 8th of May, respiration having been several times very much embarrassed, and it being found that the introduction of the stomach tube interfered with the breathing, the operation of tracheotomy was performed. The operation was only attended with temporary relief; the respiration again became difficult; colliquative diarrhœa set in, and he expired on the 14th of May.

"The body was examined eight hours after death. The abdominal viscera were healthy. The right cavities of the heart contained a large fibrinous concretion. The lungs were unusually large and free from all traces of tubercles. The upper lobe of the right lung was healthy. A small portion of the lower and back part of the middle lobe, and the greater part of the lower lobe, were in a state of red hepatization. The bronchial tubes throughout this lung were of a deep red colour, and their mucous surface had a coarse muscular appearance. The accumulation of mucus was not very great. In the ultimate bronchial ramifications of the lower lobe, there were some appearances of purulent matter. The upper lobe of the left lung was also healthy, except at its lower border, which was slightly indurated. The lower lobe was hepatized, and the bronchial ramifications in this lobe contained a few detached masses of purulent matter. The left pleura was coated with a recent exudation of coagulable lymph. The lungs were not adherent to the chest on either side.

"The pouch of the pharynx and upper part of the œsophagus, commencing just below the base of the arytaenoid cartilages, and extending downward about four inches, were extensively ulcerated. The whole surface of the ulcer was irregular and of a greenish colour; its upper and lower edges were ragged and irregular. It was nearly encircled by a series of tubercular deposits of a pale, yellowish white colour, somewhat detached from one another, and of sizes varying from that of a pea to that of a small nutmeg. Their primitive seat was evidently the submucous cellular tissue. Some of them had broken down in the centre, so as to admit a probe to pass through them and under the tissues, among which they were situated. The mucous membrane, over a great part of the ulcer, was wanting, or hung in shreds, or was bridled and undermined. The septum between the gullet and

trachea had suffered more than any other part. On the œsophageal surface it appeared to be perforated at three or four places, but on examining it in the tracheal aspect, only two complete perforations were detected. Both of these were like irregular longitudinal slits, a quarter of an inch or more in length, one just under the lower edge of the crycoid cartilage, the other nearly two inches farther down.

“ The arytaenoid cartilages pressed irregularly against each other, so as to contract the upper orifice of the larynx. The glottis was contracted and irregular, not so much from œdema, as from a contracted state and doubling forwards of the whole upper and posterior part of the larynx. The mucous membrane of the trachea, opposite the perforations and around the borders of the artificial opening, was highly inflamed, and of a greenish black colour. In the lower part of the trachea, as far as the bronchial tubes, it was also inflamed, but much less so than at its upper portion.

“ The œsophagus immediately below the ulcer, and thence throughout its whole extent, was perfectly healthy. The artificial opening which had been made into it for supplying the patient with food, was situated about midway between the upper and lower boundaries of the ulcerated portion. The mucous membrane in the immediate neighbourhood of this opening was not so much diseased as in other parts. The orifice itself was large enough to have admitted a tube half an inch in diameter. About an inch below this, in the same side, there was an ulcerated perforation, leading to a pouch, which was bounded by the inner and under part of the mastoid muscle, and was of the same dark greenish hue as the ulcerated portion of the œsophagus. Another pouch, communicating with the œsophagus, ran in, on the right side, between the middle and lower pharyngeal muscles. Its inner surface was of a light red colour, and it appeared to have been produced simply by serous and fibrinous effusions, without suppuration.

“ In the dissection, prior to exposing the œsophagus, an enlarged lymphatic gland, about the size of a nutmeg, was found lying on the right side of the neck, in front of the mastoid muscle, and near the upper and posterior part of the larynx. It had all the characteristics of a similar tumour, removed from the opposite side of the neck during the first operation. The tissues on either side of the neck, in the neighbourhood of the larynx and diseased portion of the œsophagus, were all somewhat consolidated by inflammatory adhesions. Contrary to my expectation, I found the left sterno-mastoid muscle, which had been divided transversely, so perfectly reunited, that scarcely any traces of the incision were observable. A sort of cellulo-fibrous cicatrix was, on careful inspection, discovered along part of the transverse cut, but not throughout its whole extent. I may here remark that the patient, in consequence of the division of this muscle, at first found his neck weak and his head disposed to fall back in attempting to recline; but this weakness was not of long continuance. There was never any torsion or lateral inclination of the neck in consequence of the division of the muscle.

“It may here be asked, were there no symptoms before death indicating the existence of the perforations between the trachea and œsophagus? The first appearance that led to a suspicion of the sort, was the passage of air into and out of the artificial opening in the neck, which was noticed for eight or ten days before the operation of tracheotomy. This appearance was not constant, but was observed for a few minutes after every removal of the œsophagus tube. The next circumstance, leading to the same suspicion, I noticed, for the first time, a day or two only before death. A few drops of prepared arrow-root, after I had administered a bowlful of this through the œsophagus tube, were seen within the trachea, immediately behind the opening made by the operation of tracheotomy.

“The foregoing case, in reference as much to its pathological character as to the measures instituted for its relief, is one of unusual importance. The tubercular deposits in the submucous cellular tissue around the upper part of the œsophagus, were unquestionably the starting point of disorder. They probably existed there long before the first serious manifestations of disease, and may have given rise to the ‘narrow swallow’ with which the patient had always been affected. The extension of irritation from these to the tissues in their neighbourhood, probably induced the cough which had troubled him for a few weeks prior to the first symptoms of stricture. But up to the period of opening into the œsophagus, the disease, I am disposed to believe, had not progressed to ulceration, at least to any extent; for when opened, so far as I could see, the inner surface of the œsophagus was smooth and of its natural colour. Above the opening, the finger could detect some irregularity; but there had been no discharge of blood, or of purulent matter, from this surface. Below the cut, the tissues were also smooth, though somewhat rigid and resisting to the first introduction of the tube. This rigidity was very circumscribed, easily overcome, and never subsequently observed.

“Whether the long continuance of the tube in the œsophagus had much to do in favouring the spread of ulceration or not, is difficult to determine. I am disposed to think it had no marked effect in this way. The ulcer did not extend beyond the range of the tubercular deposits, although the tube reached much farther down, and was as likely to affect the mucous membrane at its lower as at its upper portion. Be this as it may, I would not, in a similar case, recommend the constant continuance of the tube in the passage. The recorded cases of foreign bodies lodged in the œsophagus, clearly shew that ulceration, leading to perforations, is readily excited in this organ. With the view of allowing the cut in the neck to close, if this were desirable, I would have the patient nourished by introducing the tube anew at every meal-time, and removing it immediately afterwards. And if this proceeding could not be effected through the mouth or nostril, I should, as in the latter period of the foregoing case, relinquish all attempts to close the wound in the neck, and introduce the tube through the artificial opening.”

Dr. Watson thinks that there is no reason to believe

this case to have been carcinomatous. It wanted the characteristic features of that disease, being free from pain or induration; he thinks it evidently of a scrofulous nature. In this opinion we fully agree, and think it nearly resembles that lupoid form of scrofulous sore throat which sometimes affects the soft palate, commencing with tubercular swellings, which afterwards soften, break, and form irregular, ash-coloured ulcers, often perforating the palate. He considers the fatal termination of this case no argument against œsophagotomy in a similar disease, as the patient's life was prolonged by the performance of it, and death finally ensued by the air passages becoming engaged. Our space precludes our noticing the very valuable *resumé* of cases of contractions or obstructions of the œsophagus, in which that tube may require to be opened, as well as some very practical remarks on the operation of œsophagotomy. In the treatment of this case, and the pertinent reflections on it, Dr. Watson has proved himself to be a surgeon equally bold and judicious.

SCIENTIFIC INTELLIGENCE.

On the acute Form of Gout, with Remarks on its Similarity to acute Rheumatism, by Charles T. Mackin, M.D., Battersea.—Of a malady so distressing in its effects, so frequent in occurrence, as gout is known to be, it is much to be regretted that our knowledge regarding either pathology or treatment, is, as yet, involved in uncertainty and doubtful hypotheses. This disease presents to the observer so many shades of resemblance, throughout its different phases, to rheumatism, as well during the period of incubation as after its fullest development in the form of local inflammation, that we should, at a superficial glance, be almost induced, without farther inquiry, to acquiesce in the opinion, that the difference between rheumatism and the affection which forms the subject of this article, is merely a degree of intensity ; that the morbid action, more diffused and divided amongst the larger joints in the acute form of articular rheumatism, was, by some as yet unaccountable peculiarity, either in the constitution or hereditary tendencies of the patient, as it were, concentrated to a more limited sphere on which to exert its influence, thereby giving rise to the discrepancy and disproportion between the two diseases with regard to—1st, The number of articulations simultaneously affected ; 2nd, Pain, accompanying fever, and general symptoms concurrent with the usual distinct local inflammation. In a well-defined attack of gout, the pre-existent and gradually progressive derangement of all the organs which subserve the purposes of digestion and nutrition, coupled with the very remarkable increase of nervous irritability observable, as far as my experience goes, invariably antecedent to a paroxysm, are sufficient, in a great measure, to warrant the conclusion that it is one of the most prominent examples of a local disease, depending solely for its origin on constitutional disturbance.

On an accurate analysis and comparison of the phenomena of rheumatism, brought in juxta-position with those of gout, we shall find sundry material differences, and a numerous train of minor points of distinction, interesting both to the pathologist and the practitioner. The following table will serve, in a general manner, to illustrate this assumption :

GOUT

1. Is rare in females, if, indeed, they are ever attacked by it, as a strictly defined and uncomplicated affection.

RHEUMATISM

1. Is frequent amongst females, especially that class who are necessarily exposed to the action of those causes to which it is attributable.

GOUT

2. Is scarcely ever seen prior to the age of manhood.

3. Is generally (though not always) superinduced by high living, free indulgence in the pleasures of the table, &c., &c.

4. Is hereditary, descending, as is well known, from father to son, sometimes missing one generation to reappear in the succeeding. Query—Is the gouty diathesis transmissible in families, or does community or similarity of habits induce similarity of disease?

5. Affects the smaller joints, although the larger are often attacked; such is generally consecutive. The parts abounding in fibrous tissue, as, for instance, the sole of the foot, are not often the seat of true gout.

6. Less frequently becomes chronic.

7. Subsequent to the paroxysm the patient is improved in general health, that is, in comparison with the state of system previously.

8. Metastasis, to other joints, (common); to the stomach (frequent); to the membranes of the brain (rare); to the pericardium (scarce ever).

9. Cornea most frequently the seat of gouty inflammation of the eye.

10. Localization of gout not generally preceded by rigor.

11. The copious perspirations characteristic of rheumatic fever are not present in any stage of gout.

Such, then, are the distinctions.

A watchful attention to the growth and progress of this afflicting malady has, I must say, left no very satisfactory impression on my

RHEUMATISM

2. Is common, or at least may present itself, in all stages of life, except, perhaps, infancy, &c.

3. Is more frequent amongst the lower orders, and those to whom poverty and privation are familiar visitors.

4. Is not hereditary—certainly not obviously so.

5. Affects the larger joints and the fibrous tissues.

6. Chronic rheumatism one of the more frequent maladies of old age.

7. Subsequent amelioration not so evident.

8. Metastasis, to other joints (always); to the stomach (rare); to membranes of brain (frequent); to pericardium (very common); to intercostal muscles (pleurodynia).

9. Rheumatism attacks the sclerotic (sclerotitis atmospherica of Mackenzie), when it presents itself in that organ.

10. Rheumatic arthritis always? ushered in by rigor.

11. Muscles in neighbourhood of joints affected, the seat of frequent and distressing involuntary spasms.

mind, either of the pathology or treatment of this, as well as its correlative disease, rheumatism. It is, in the established rules of modern practice, to be taken by storm, to be driven from the system *vi et armis*, and all the means which an already overgrown materia medica places within our reach, have been and are brought to bear against it.

The premonitory signs of its approach are generally found to be of a well-marked and definite character; so much so, that in many instances, he who has undergone a previous attack can foretell with unerring certainty the coming of a "fit," as it is termed, some time anterior to the appearance of the unwelcome visitor. The first symptom which excites observation is, a considerable increase of nervous irritability, manifesting itself in sudden explosions of temper, without material cause, and a general peevishness, and hastiness of manner, during the day-time. At night, the sleep is restless and unrefreshing, disturbed with frightful dreams, tossing of the limbs, &c., &c. The appetite (though not invariably) falls off. There is gastro-intestinal derangement, with a sense of fulness and oppression subsequent to meals; dyspepsia and heartburn are pretty constantly present. As the symptoms become aggravated, the patient is annoyed with flatulence, accompanied with sour eructations; the tongue is foul, either coated with a thick covering of yellowish fur, or in case the irritation of the primæ viæ reach a greater height than *usual*, is of a preternaturally red tint, dry, and glazed at its edges; there is a bitter, or, at all events, a vitiated taste in the mouth, especially on first rising in the morning; headach in those of plethoric habit; the bowels are costive or relaxed, in either case the secretions are dark and offensive. The urine is of a saffron tinge, often scanty in quantity, and charged with lithic acid. These form the more remarkable prodromata, and, curiously enough, are observed to possess a distinctly remittent character; the exacerbation taking place in the evening, the remission in the early portion of the day, during which the sufferer is comparatively better (indeed, all the phenomena of gout affect the periodic form, certainly much more obviously so than any other disease of a similar type). The foregoing train proceeds, with or without increase of severity, for several days, or even may, in some instances, be lengthened to the duration of a fortnight or more, prior to localization of the disorder. Of the near approach of the "fit," the patient is warned by being seized at intervals with flying or transitory pains in different parts of the body, mostly affecting those portions of the frame already weakened by previous illness; they are sudden and transient in their attack, not dissimilar to those aching sensations in the cheek, head, stomach, or joints, which are so frequently occasioned by cold, and, like them, are as rapidly transferred from one place or organ to another, and often as suddenly disappear altogether for a short period. (It is at this stage that instantaneous relief may sometimes be given by the administration of a stimulant, when the pain or spasm incident to the derangement of organic action is in a moment transferred from the head, stomach, bowels, or back, to the extremities).

These phenomena, then, are the heralds of the inflammation, which, in the vast majority of cases, takes hold, in the first instance, of one of the smaller joints of the lower extremity, either the metatarso-phalangeal articulation of the great or little toes, very seldom, except secondarily, of the intermediate ones. The seizure is, in nineteen out of twenty cases, during the night, or rather in the morning, between two and four, the patient being suddenly awoken by a violent pain in the part. Swelling does not in all cases immediately supervene, but the joint is exquisitely tender, the weight and heat of the bedclothes being nearly insupportable. The adjacent veins are observed to be somewhat turgid, and the integuments shining and tense. Partial relief from pain is experienced during the earlier part of the day; towards evening the symptoms undergo a material aggravation, and at the same periodical lapse of twenty-four hours, the exacerbation will have reached its height, pursuing a similar course of remission and increase for a time, the length of which I have observed to depend for its duration, first, on the extent and severity of the antecedent symptoms; secondly, on the interval which may have elapsed since the last attack. Supposing retrocession or metastasis not to happen, the course of the local inflammation will be the following:—Swelling of the joint and parts adjacent, accompanied with a considerable elevation of temperature; if intense, a circumscribed pale-pink flush is seen on inspection. This, however, is not always present, as the integuments often seem rather paler than natural, particularly if there be an imperfect or partial development of the local disorder. The pain is well known to be peculiarly agonizing, burning, and lancinating in its character (different from the “gnawing” sensation of rheumatism). Resolution is the usual termination; when this is at hand, there is a gradual subsidence of the heat and pain, into a sense of itching and tingling, followed by decrease of all the other local and general symptoms. The cuticle immediately covering the joint often desquamates to a slight extent, and the part is at length left free from gout, but weak, stiff, tender, and liable to be the seat of future attacks of a similar nature.

A most remarkable fact connected with the disappearance of the paroxysm is, that the patient, with the exception of being more or less crippled for a time, experiences a sort of general renovation of the system, and his state of health is better and more vigorous subsequently, than prior to the fit. It seems as if the localization of this disease (if I may be pardoned a solecism) were a salutary process, instituted by the “*vis vitæ*” for the more effectual and complete removal of the cumulative disturbance of the general economy.

Mr. —, a middle-aged man, of irritable temperament, spare, yet muscular frame, and otherwise healthy habit, is subject to periodic attacks of acute gout, which of latter years have returned pretty regularly about the midsummer months. His father had been subject, in a slight degree, to the same disorder. Its first appearance was about the age of twenty-one, since which time, although a person of regular

and methodic habits, as to diet and regimen, he has each year a more or less severe fit; some summers, as many as two or three, at successive intervals of one, two, or three months. Warning of the visitation is invariably given by the following symptoms:—first, increased irritability; second, functional derangement of the abdominal viscera, accompanied with disordered bowels, high-coloured urine, slight feverishness towards evening, dryness of skin, and some acceleration of the pulse, followed by, third, “flying pains,” referrible to various parts, principally joints previously attacked, and at (as nearly as may be) two, three, or four A. M., the seizure takes place (without previous rigor) in one foot. The pain is agonizing and incessant, until swelling appears, when the suffering undergoes a slight mitigation. The inflammation passing through the several stages (before described) and leaving the sufferer, excepting the consequent lameness, in a state of convalescence, which rapidly terminates in (for the time) complete restoration of health. When a longer interval than usual elapses between the fits, or should it assume an erratic character, several joints will be attacked in succession. The speedy (almost instantaneous) departure of the affection from the toe to reappear in the knee, elbow, or shoulder, as the case may be, I have frequently witnessed, and it is a phenomenon remarkably interesting and curious, involving, as it does, several unexplained and mysterious points connected with that extraordinary vital process, metastasis. On one occasion, towards the decline, when recovery was thought to be close at hand, he incautiously walked, with the affected foot unprotected by covering, along a damp, flagged passage. Before the lapse of half an hour, erratic pains were felt “flying” about different parts of the trunk and head, accompanied with alarming depression, relieved by at once administering a strong dose of brandy, and immersing both feet in a mustard-bath, by which means the disorder was speedily repelled to its former seat.

In the case of this gentleman I have also observed, that very slight causes will bring about the development of the elements of gouty inflammation, with which the system appears in a manner to be charged. I have known so trivial an accident as striking the great toe against a stone in walking, produce a paroxysm. This peculiarity is often witnessed in those who are of confirmed gouty diathesis. Indeed, a man constitutionally subject to the disorder, appears to “wear his heart upon his sleeve,” slight accidents, otherwise of no moment, being sufficient to induce an attack of this extraordinary disease.

* An observation here occurs to me, which may not be altogether unworthy to record, viz., that as the different organs, or systems of organs, allotted to innervation, circulation, digestion, excretion, are not stricken by disease together, but successively (or singly), so the same subdivisive systems of organs (during convalescence) recover their healthy function, or tone, not at the same time, or in the same rhythm, but successively. The first function which regains its normal healthy state of action is that performed by the excretory organs; next, probably, the balance of the circulation is restored, and so on of the rest.

Is it to be considered a modification of rheumatism? Is it a branch, of which the latter may be the root?—a species of which rheumatism is the genus? Most certainly they are nearly allied, and assumed affinity of origin is borne out by their being commutable with each other in a remarkable manner, the extremes of both presenting dissimilarities the most striking, yet passing or merging, by imperceptible shades, one into the other, rheumatism in different cases presenting more or less of the characteristics of the correlative disease, until we have a sort of compound or “hybrid,” popularly termed rheumatic gout.

Again, the power of translation, or metastasis, so much more obvious than in other disorders, and which gout and rheumatism both possess in common, the former, however, in a more marked degree, must suppose that connective relation of origin which leads to similarity of phenomena. The study of what is pompously styled pathological anatomy has shed no ray of light on this intricate subject. The inspection of the traces which disease leaves after death gives but feeble hints with regard to vital morbid action, being nothing more than a careful examination of the battered and worthless casket from which the contained jewel is reft.

What, then, are the channels by means of which gout changes its seat? Is it carried by the arteries? No; for it is frequently transmitted from the extremities towards the trunk, in direct opposition to the blood current. Is it by the veins? For a similar reason we must presume the negative. Is it by the lymphatics? The lymphatics permeate, we have every reason to believe, all the living tissues. How, then, could the morbid element, whatever it be, be circumscribed in its action if transmitted by a continuous channel? Is it by the nerves? Is it an instance of reflex action? This is the more probable, or rather plausible, way of accounting for it. That the sentient extremities of the nerves are not mediately, but directly, implicated in gouty inflammation, is certainly less than doubtful, for the following reason—the pain is altogether referred to the part affected.

Let us compare this with other known facts, by which we shall obtain, at least, indirect corroborative evidence of local neuritis. In most forms of hip-joint disease, pain is felt at the inner part of the knee, which is often somewhat puffy and tender. The nerves of the articulation, actually the seat of the disease, are not affected, as is well known, until we produce a shock, either by striking the sole of the foot, or the trochanter. The sentient extremities of the nerves are thus, though probably in a state approaching to hyperæmia, still not actually inflamed. In synovitis, pain is felt at the inner and posterior aspect of the thigh, at a point corresponding, as nearly as may be, to the insertion of the short adductor. Here, again, we have negative evidence to the same purpose. In some varieties of hepatitis, pain is referred to the point of the corresponding shoulder. In calculus vesicæ, whatever be the uneasiness felt in the viscus (which is more or less in a state of sub-acute inflammation), the torture, the charac-

teristic “stabbing,” is at the extremity of the penis: the sole of the foot in calculus is sometimes even the seat of pain. Again, pain, as a symptom of inflammation, may be altogether absent, as in that obscure class called “latent” diseases; for instance, pneumonia, pericarditis, &c., may be so masked and insidious in their progress as to proceed to an alarming height before detection, or even to terminate in the death of the patient; and the nature of the morbid lesion is only found on a *post mortem* examination. In the foregoing short list (which space compels me to abbreviate), we cannot, without striking at one of the fundamental axioms of physiology, viz., that sensation has no existence independent of innervation, assume that the terminal nervous fibrillæ can be the seat of phlogosis, without coetaneous derangement of their peculiar function, causing pain.

Now, in all the known examples of neuritis, the derangement of sensation is referred to the seat of inflammation—sciatica, for instance, occurs to me—in which the sensation of pain commences at the point where the inflammatory process begins, viz., where the nerve make its “debut” from the pelvis, passing along its own course, and, if intense, that of its branches. Here the seat of phlogosis is the seat of pain. From these and other known data I infer, that *as inflammation in each of the larger organs (taken en masse) assumes diversity of appearance and diversity of symptom, so may the same process in the ultimate molecules of the constituent parts of the body, cause diversity of appearance and diversity of symptom.* For example:—as arteritis, phlebitis, neuritis, inflammation of the lymphatics, &c., &c.—morbid actions taking place in certain masses performing definite functions,—are manifestly within the scope of our powers of reasoning, *so there are analogous transformations and disarrangements of the ultimate molecules of the vital tissues, and as the ultimate molecular arrangement is beyond our present powers of investigation, so the changes which take place in the same are equally unknown* in their exact nature, though admitting of a vast range of inductive argumentation.

In order to perceive the extent to which this mode of reasoning may be carried, we must consider—1st, the mutual adaptation and dependence of each ultimate molecule on its fellow; 2nd, the adaptation of masses formed by molecular aggregation to, 1, the purposes of its own individual economy; and 2, the function which it fills in the general economy of the frame.

By tracing the *unity of design*, from the summit to the foot of the scale, from the animal organism, taken as a whole, to the ultimate molecule, the dependence of which on its fellow is not less real and absolute, than the dependence of a limb on its nerves, arteries, veins, the dependence of a *visible* nerve of that limb on the centre from which its influence is derivable, or the dependence of the principal vein on the integrity of the function of the lungs and heart—we may suggest to ourselves many curious analogies, and account for numerous hitherto unexplained morbid phenomena, which the Protean

forms of disease present to our view ; as thus (take one or two illustrations).

1. *Arteritis, the Analogue of phlegmonous Erysipelas*.—Inflammation in a large blood-vessel is arteritis ; phlegmonous erysipelas is the *same process* in the terminal or penultimate ramifications of (as the case may be) the same blood-vessel, the tendency to spread being attributable to their freedom of anastomosis, and resulting continuity of channel. The terminal extremities of the nerves are secondarily affected, giving rise to pain, &c.

2. *Sciatica, the Analogue of acute Rheumatism*.—Sciatica is inflammation of the covering or neurilemma of the nerve ; acute rheumatism is *the same process* in the terminal or penultimate fibrillæ of (as the case may be) the same sheath. The molecules of the contained nervous matter are secondarily affected, causing pain ; the ultimate ramifications of the blood-vessels are tertiarily affected, causing the pink flush visible externally, &c.

3. *Inflammation of the Substance of a large Nerve, the Analogue of Gout*.—Inflammation of the nervous matter aggregated, as in a large nerve, is neuritis. Gout is the same process in the ultimate or penultimate nervous molecules of (as the case may be) the same nerve ; the agony (or exaggeration of pain) is caused by the unyielding texture of the containing sheaths ; the ultimate ramifications of the blood-vessels are secondarily affected, giving rise to the pinkish flush, &c. We can now account for metastasis : *metastasis is effected by repulsion or attraction of the current of the nervous molecules*—1st, repulsion by application of an external stimulus, as cold, when the current is repelled (carrying along with it the diseased atoms) from the periphery to the centre ; 2nd, attraction, when, by immersing the previously affected part (as the foot) in a hot mustard bath, the current is attracted in the opposite direction, or from the centre to the periphery ; the existence of a nervous current being allowed, this explanation must, more or less, hold good.

The immediately foregoing remarks, founded on the received doctrine of the “ general unity of design,” are capable of almost universal application, and I shall adventure, probably, some future observations in elucidation of the same. In the crude and undeveloped state that they are here put forth, they must be received with that liberal indulgence which men of true science well know must be allowed in the discussion of subjects which have hitherto eluded all research, and are yet involved in the darkest shades of uncertainty and doubt. An analysis of the treatment of gout will form the subject of another paper.—*Lancet*.

Poisoning by Prussic Acid. The Case of Tawell.—The late trial at Aylesbury presents many circumstances worthy of the careful attention of every member of the Profession, circumstances which must hereafter be borne in mind by every one who may be called upon to fulfil the painful and onerous duty of bearing testimony in a criminal

prosecution. The confession of Tawell has removed all doubts as the cause of death in the case of Sarah Hart. Had that confession not been made, a ground would have remained for endless discussion respecting his guilt; and the ingenuity with which doubts have been raised concerning prussic acid, and its effects on the animal economy, would have long and sorely puzzled medical jurists. Still certain suggestions, thrown out in the attempt to save Tawell, involve points which, once mooted, cannot be allowed to remain undecided, inasmuch as it is easy to conceive they may become infinitely more important in future cases; the very pivots, indeed, upon which questions of life and death may turn.

The circumstantial evidence adduced against the prisoner was remarkably close and full. Tawell was seen to leave the cottage of the deceased at the moment her screams attracted the notice of her neighbour. He passed off hastily, and hurried from place to place, instead of going direct to his destination, the railway station. When apprehended the next day he denied all knowledge of the deceased, or that he had left town the preceding day. Subsequently, he admitted his knowledge of the woman, and that he had been with her, but he alleged that she had poured something from a small phial into her glass of porter, threatening self-destruction, but that he thought she was feigning. Tawell's connexion with the woman was admitted, and that she had two illegitimate children by him. He was proved to have bought prussic acid on the morning of the 1st of January, and on the 2nd he stated that he had lost it. Prussic acid was found in the stomach of deceased by a practical chemist, whose skill and knowledge are indisputable.

Seldom is the chain of evidence so complete; nevertheless, in the absence of the confession, doubts of Tawell's guilt were entertained on several grounds: 1. From the character of the medical witnesses, and certain mistakes made by them. 2. The symptoms preceding death. 3. The post-mortem appearances. 4. It was said that prussic acid may be obtained from the pips of apples, and some portions of *apple* were found among the contents of the stomach.

In the first place, great stress was laid upon the admission of the three medical witnesses, that they had never before seen a case of poisoning by prussic acid—never made a post-mortem examination under such circumstances, but that their knowledge was derived from books, and experiments on animals. If this is to invalidate medical testimony, then, we say, all such testimony in this country is useless. So few cases of poisoning by prussic acid have been seen by medical men, that it is, at present, very uncertain what may be considered as the invariable symptoms. We believe no one has before been convicted in our courts of employing that agent for the purpose of assassination; and when taken accidentally, or for self-destruction, death is so rapid that all is over before any person competent to observe the symptoms can arrive. We are therefore reduced to the necessity of depending upon the reports of the continental physicians for our knowledge of the symptoms produced in the human body by prussic acid.

It cannot be denied that Messrs. Champneys, Norblad, and Pickering, when called upon to investigate the cause of death in Sarah Hart, although well-informed surgeons, were not prepared for such a task by the special study of chemistry and toxicology. They therefore acted in a manner which we cannot but commend for its prudence, in placing the contents of the stomach in the hands of a thoroughly competent chemist, whilst they proceeded to examine the physical condition of the body. And this they pronounced to be—so far as respects the external appearances, the heart, the stomach, the brain, the liver, the gall-bladder, &c.—healthy. The lungs, they said, were perfectly healthy, except being *rather congested*; the pleura shewed some old adhesions. If, therefore, this case could be recorded for reference, it would appear that prussic acid may cause death without leaving any visible change in any organ. It is true there appears to have been no examination of the spinal cord, but we cannot regard this as of much moment, inasmuch as the physical appearances usually considered to be indicative of poisoning by prussic acid are not found *there*; and, indeed, they are of such a nature that these gentlemen could not have overlooked them had they existed. Almost every case on record seems to shew, that the effect of prussic acid is to throw all the blood of the body into the venous system. The surface is bloated and discoloured; the liver, lungs, and brain gorged with venous blood; the surface of the stomach and mucous membranes have a dark red hue; but it would appear that neither these appearances, nor any other lesions, occur invariably.

There is one point on which we regard their testimony, in connexion with the evidence and the confession of Tawell, as of unquestionable importance—namely, that two drachms of Scheele's acid could be administered, and yet of three persons only *one* could detect its presence by the sense of smell, and even he was by no means so strongly impressed with the sensation as to be satisfied, because it appears they imagined, from the absence of positive proofs of the existence of other poisons, that cyanide of potassium had been taken. But Mr. Cooper, on touching the fluid contents of the stomach with test paper, found the reaction powerfully acid, which, in the absence of the odour of prussic acid (which he could not perceive) at once destroyed that hypothesis. Mr. Cooper's evidence upon this point, as well as by indicating the course to be pursued with a view to detect prussic acid, is worth the attention of our readers.

On smelling the contents of the stomach, which had been placed in a bottle, he recognized the odour of beer, but not that of prussic acid.

“When I first opened the bottle,” said Mr. Cooper, “I dipped into it some litmus paper, which instantly became red, shewing the presence of some strong acid, from which circumstance I was led to expect the presence of oxalic acid. I tested the contents of the stomach for arsenic, for opium, for sulphuric acid, for oxalic acid, for the mercurial salts, and other metallic poisons, but did not detect any. I then tested them for prussic acid, through the agency of sulphate of

iron and a solution of potash, put into a retort, which I placed in a sand-bath. When dissolved and well stirred up, I added some muriatic acid. The muriatic acid produced Prussian blue immediately. That is a proof of the presence of prussic acid. It is a proof of cyanogen in some shape or other. I do not think the sand-bath was of sufficient heat to decompose animal matter. It is quite consistent that it should have been of sufficient heat to cause those things to dissolve, and yet not of sufficient heat to decompose animal matter. It would require between 600 and 700 degrees of Fahrenheit to decompose animal matter. If fluid were not present, I think it quite possible that the sand-bath would decompose animal matter. I also put some of the contents of the stomach (in a retort) into a water-bath, and put into the water some salt, in order to raise the temperature. By that means we can, instead of 212, obtain a temperature to 226. I used an adapter between the retort and receiver, and had the receiver surrounded with litmus paper, in order to keep it cool. The distillation was conducted very slowly. I distilled off the first day about an ounce of liquid. I could not discover the smell of prussic acid in it. The contents of the stomach smelt strongly of beer, of food, and the process of digestion. I applied the same test to the clear liquid I distilled in this way as in the former experiment, and it produced Prussian blue. I added nitrate of silver to a portion of the distilled liquid from the water-bath, and about the same quantity was precipitated. The immediate object of my putting nitrate of silver to another portion of the liquid was in order that the prussic acid should not escape, and that I might examine it at my leisure. The nitrate of silver formed an insoluble white precipitate, called cyanide of silver. The product was, therefore, cyanide of silver; I put it into a small retort, added a very small quantity of muriatic acid, and carefully distilled it over into a very cool receiver. About a drachm, or a little more, distilled over. That liquid smelt of prussic acid. It was in fact diluted prussic acid. Therefore, from the cyanide of silver I got prussic acid, and I precipitated the acid again with nitrate of silver, and formed cyanide of silver again. Some of the cyanide of silver I obtained I tried to dissolve in cold nitric acid, but could not dissolve it. I did dissolve it in boiling nitric acid. These are the distinguishing characters of cyanide of silver. I dissolved it by heat, and burned the gas which it produced. That gas is inflammable, and burns with a peculiar colour, which some call purple, but I call it rose-coloured. These are the recognized tests for cyanide of silver. I observed in the contents of the stomach pieces of undigested apple. Prussic acid may be obtained from apple pips. I took the pips of about fifteen apples to obtain prussic acid from. The result was the production of this Prussian blue [shewing an ounce bottle with a pale blue liquid]. The quantity of prussic acid contained in it is inappreciable. I do not think any chemist could estimate the quantity, it is so small. The same degree of heat was applied to distil the pips as in the other cases, but the distillation was conducted by means of a lamp, and not of a bath. The contents of the stomach, as brought to me in a bottle by Mr. Champ-

neys (something less than a pint of liquid), I conceive, from the results of the test I applied, to have contained about one grain of prussic acid—that is to say, fifty grains of the London Pharmacopœia, or twenty grains of Scheele's acid. I could not tell, from the contents of the stomach, as brought to me, how much had been introduced into the stomach originally, and before its contents were removed. It is more than probable that the quantity was more than I estimate from the result of the experiments, as some may have been lost by absorption, or by exhalation, or by the transfer of the contents of the stomach to the bottle. But from my experiments I am satisfied that there must have been a grain of prussic acid in the stomach."

Like most cases of this kind, all we know of the symptoms is derived from non-professional witnesses. The screams of the woman first attracted her neighbour, who, as she approached the house, still heard a moaning noise.

"The moment I opened the door," said this witness, "I found the deceased on the floor, with her head not a great way from the door. Her legs were towards the fire; her dress was quite in a disordered state. Her clothes were up near to her knees; the left stocking was down to her ankle, and the left shoe off. Her gown was torn; her cap was off, and at a little distance from her; her hair was loose. She was still making a noise, and her eyes were fixed. She did not move her limbs. I took hold of her hand, and raised her head; I said, 'Oh, Mrs. Hart, what is the matter?' She made no answer. I thought she slightly pressed my hand, but that I can't positively tell. When I raised her up, a little froth came out of the corner of her mouth. Her eyes appeared to be fixed. When I first found the deceased she was breathing in a short, quick way, making a noise, 'Oh! Oh! Oh!' It was the same description of noise I had heard before. I did not observe her lips or eyes move."

It is necessary to remark that she was seen a few minutes before in perfect health. That the symptoms described by the witness cannot be considered unequivocally to prove poisoning by prussic acid, we must admit; but it is evident that in these cases much latitude must be allowed for variation in such reports; we must not dwell too rigidly on the alleged presence or absence of any single symptom. Screams, convulsions, and insensibility, within a few minutes after a person has been seen in perfect health, must afford a strong presumption of poisoning by some rapidly acting agent. The state of the eyes was not noticed, except it is said they were fixed. They are usually, but not always, staring open, and glistening, after prussic acid.

Too much stress has been laid upon what is called *the death-shriek*. Neither the present, nor many other recorded cases, warrant us in assuming, that one peculiar cry precedes death.

Another incident is worthy of notice. A female witness deposed that on a previous occasion, the deceased, having partaken of some porter with the prisoner, became ill, complained of headach, and vomited a wash-hand basin full. Mr. Norblad said that *these symptoms resembled those which would be produced by an over-dose of*

prussic acid, short of what would prove fatal. Although many authorities have stated that vomiting sometimes occurs when prussic acid is administered, the large amount of fluid vomited, and the long continuance of the vomiting, disprove Mr. Norblad's opinion. Moreover, Tawell, in his confession, asserts, that he employed morphia on that occasion.

A great and remarkable error was committed by all the medical witnesses, as to the smallest amount of prussic acid which has been known to occasion death. They stated that seven-tenths of a grain of anhydrous acid, had destroyed life in seven cases, in one of the Paris hospitals, and, strange to say, this statement was not contradicted at the trial. A more perfect demonstration cannot be desired of the evil of trusting for information to compilations and manuals, those short and easy roads to knowledge, which is at present, we fear, greatly prevalent amongst practitioners, and we trust it will excite many to a more extensive course of reading, and the addition to their bookshelves of higher and better authorities.

In the case of the seven patients, in Paris, who were in the hospital, in the year 1830, under treatment for epilepsy, a physician prescribed eleven grammes and fifty centigrammes of hydrocyanic syrup, which he intended to be prepared according to Magendie's formula. By whom the translation of the history of these cases was first made we cannot say, but, most strangely, all English compilers of books on toxicology and medical jurisprudence state, that this contained seven-tenths of a grain of anhydrous prussic acid, and they quote these cases as affording us evidence of the smallest quantity of this acid which has been known to destroy human life.

Now, the old pharmaceutical codex of France mentions two sorts of hydrated or medicinal hydrocyanic acid—the one *acide cyanhydrique hydraté*, contains one part of acid to two parts of water, and the other, *acide cyanhydrique médicinal* (dit au sixième) contains one part of acid to five parts of water (by volume, and thus about seven parts of water to one part of acid by weight—taking the specific weight of the acid at 0.7). In the year 1830, when this lamentable case occurred, *hydrocyanic syrup* was usually prepared according to the old formula—viz., nine parts of sugar syrup to one part of medicinal acid—(whether the acid termed *au troisième*, or that termed *au sixième*, had been used, cannot be decided upon, although, from Orfila's remark on the *enormity* of the dose, we may suppose that the acid *au troisième* was used).

Had the syrup been prepared according to the physician's intention, every one of the seven patients would, in the 172 grains of hydrocyanic syrup, which were administered to him, have received only one grain and one-third of absolute acid. But having been prepared by mistake, according to the formula of the old codex, the amount of pure and absolute prussic acid administered to each of the patients was two grains and one-fourth, on the most moderate calculation—i. e., if the acid *au sixième* was used; if the acid *au troisième* was used, the quantity of pure acid amounted to *six grains* for every patient.

There seems to be no end to the varieties of these acids ; besides the above, there is that of Guibourt (acide *au huitième*), that of Magendie, which consists of one part of anhydrous acid to six parts of alcohol (this menstruum, it is thought, greatly enhances the potency of the solution), and another, *au quatrième*. So that, in this respect, we are no worse off than our neighbours. Scheele's acid of our shops varying from one to four per cent. ; those of the three British Pharmacopœias being, Dublin, one and a half per cent., London, two per cent., Edinburgh, three per cent. With these facts before us, we can only wonder that poisoning by prussic acid is not less rare.

It is self-evident that the mere presence of prussic acid in the stomach would afford little strength to the evidence respecting the cause of death ; a trace might, perhaps, be always detected by acting upon the contents with great care, so as to decompose the cyanogen compounds, shewn by Gmelin and Tiedeman to exist in the saliva and other fluids in a normal state. But it is a different matter when so much as a grain is discovered. Such an amount could only be harmless in cases where it was proved that it had been taken for some time, and in gradually increasing doses, medicinally, or that some other compound, harmless in itself, but from which prussic acid may be deduced in the operation of searching for it,—as, for instance, the ferroprussiate of potass,—had found its way into the stomach. The evidence upon these points, collateral to the medical and chemical, must decide these questions, and, in general, how a poison found in the stomach has got there. A young man—prompted, as it would seem, by a London lecturer—came forward on Tawell's trial with the assertion that from the pips of fifteen small apples he had obtained nearly half a grain of prussic acid. On this an hypothesis was based that the quantity found by Mr. Cooper might have been derived from the pips of apples, as it appeared the deceased had partaken of apples shortly before her death. But the absence of pips was alone fatal to this hypothesis, even if we had not the better testimony of Mr. Cooper, that a mere trace only of acid could be got from such a quantity of apple pips. We repeat that the confession of Tawell has destroyed in embryo a very pretty controversy ; there were many preparations made for overthrowing the medical testimony, and for proving that, but for the circumstantial evidence, he ought to have been acquitted. With this perverse ingenuity we have no sympathy.—*Lancet*.

On the Microscopic Texture of Cancer.—M. Desormeaux has recently published a valuable inaugural dissertation, entitled *Recherches sur la Theorie elementaire de la Production des Tissus accidentels*, in which he has given an excellent summary of all the recent researches on the intimate structure of cancerous formations.

Müller (and, since the publication of his writings, most other pathologists) has arranged these morbid growths into two great families or groups, viz. the encephaloid and the scirrhus. Of the former he makes the following three subdivisions.

1. Carcinoma medullare, *in which there is a predominance in the medullary mass of round globules over loose fibrous tissue.* The globules are of various sizes, but the smallest are larger than pus corpuscles. Each contains a granular substance or nucleus within. They are very similar in many respects to those of common cancer, and of reticulated carcinoma or scirrhus.

2. Carcinoma medullare, *consisting of pale, elliptic, non-elongated corpuscles, and of a fundamental cerebriform mass.* These corpuscles are usually twice or three times as large as the globules of the blood. There is never any appearance of fibres proceeding from their surface, and they rarely exhibit any traces of nuclei within them.

3. Carcinoma medullare *with fibrated or fusiform corpuscles.* This species of encephaloid structure has, at times, on laceration, a sort of fibrous aspect, when the fusiform corpuscles are arranged in a somewhat determinate direction. According to the direction which they assume, the morbid mass will present a radiated or a tufted appearance. In many cases, indeed, their directions are so various that the lacerated surface exhibits no trace of fibres any where. The fusiform corpuscles are sometimes nucleated; at other times they contain granular points, but without distinct nuclei. They are elongated on one or two sides into fibres of different lengths. They may be considered as cells that are arrested at the period of the process of transition from the cellular to the fibrous condition.

The three forms of the disease now described may, most probably, be regarded as so many degrees or stages in the development of the same tissue; these successive stages being characterized, 1, by rounded nucleated globules; 2, by elongated oviform globules, which are either non-nucleated, or indistinctly so; and, 3, by fusiform globules.

These several kinds of globules may be regarded as so many successive epochs of evolution, through which a *cell* must pass before it can become a fibre. Thus we find that, in an encephaloid mass, there is the same transformation of the primitive elements as occurs in many normal tissues—with this difference only, that the process of evolution is not complete, being arrested before the fibrine is perfectly formed. There is a perfect analogy in their mode of formation. The essential element of an encephaloid tumour is the presence of cells. In some cases the entire mass is composed of them, placed one alongside of the other, but without having any perceptible bond of union; while in others there is a net-work of fibrous or cellular tissue interposed between the cells. When this fibrous tissue prevails, the encephaloid then approaches in characters to the scirrhus structure. In the latter, the existence of the two elements, cells and fibres, is always more distinctly marked than in the former. The fibres are often quite perceptible by the naked eye. Sometimes they are lengthened and run parallel to each other; at other times they form rounded capsules, within which the globules are contained. As in the case of the newly-formed fibres of the cellular tissue, so those

of a scirrhus formation are destroyed by acetic acid, leaving nuclei or nucleated fibres behind. The fibres sometimes exhibit at different points a sort of varicose enlargement, within each of which a nucleus is found. This appearance is often observed in fibrous tumours (not genuine scirrhus) of the uterus and other parts.

In the *reticular carcinoma* of Müller the white net-work which encloses the scirrhus globules in its meshes, is formed of round, opaque granulations, three or four times as large as the blood globules; they are occasionally agglomerated into rounded masses. The genuine scirrhus tissue, of a pale greyish colour, is composed of globules that, on the whole, resemble those of the first stage of an encephaloid formation. These globules are either round or somewhat oval: along with them we find free *nuclei* with their *nucleoli*. —(Vogel.)

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From a variety of observations, we may reasonably conclude that the cells of scirrhus are formed around the nuclei of which M. Vogel speaks; their contents are at first granular, and almost opaque. When the process of softening commences, the granulations disappear, the globules become transparent, and within them are formed new cells, which at first are few in number, and gradually multiply until they entirely fill the parent cell. M. Valentin, who, in part at least, admits this account of the progress of the cells, says, that the parent cells eventually burst and discharge their cellules: in this way we may account for the presence of young free cells in scirrhus formations that have become softened.

The intercellular substance seems to undergo certain modifications corresponding with the evolutions of the cells; the granulations or granular points, which it often contains, usually disappear, and it becomes limpid, while at the same time the space which it occupies is diminished by the enlargement and multiplication of the cells.

The fibrous net-work does not appear to follow in its alterations the development of the cells: it may remain firm and resisting while the cells are far advanced in their evolution. Even when a scirrhus tumour has become completely softened, this tissue sometimes forms shreds that retain their original character.

In *alveolar cancer* the basis of the morbid tissue consists of white fibres and lamellæ, which cross and intercross with each other, intercepting between the meshes thereby formed limpid cells, either closed or communicating with each other, of various sizes, from that of a grain of sand to that of a large pea, and filled with a transparent gelatinous substance. In this substance there are cells, and these cells contain other cells more minute. The smallest of these cells exhibit, at one point of their parietes, a distinct dark yellowish nucleus, and sometimes also many free and unattached granules floating within them. To this species M. Müller refers the *gelatiniform* and *areolar cancers* of Laennec and Cruveilhier. The cells of this species of the disease appear to be only an advanced or more mature degree

of the cells of scirrhous.—(*Journal de Chirurgie de M. Malgaigne*, Octobre, 1844.)—*Med. Chir. Rev.*

Cervical Fistulæ, a Remnant of embryotic Organization.—Dr. Munemayer, of Verden, has collected together the histories of fifteen cases of this congenital malady. The following are the conclusions which he has drawn from his researches on the subject.

1. *Fistulæ* of the neck always occur in the same locality, viz. in the anterior lateral part of the neck. Their orifice corresponds to the angle formed by the internal bundle of the sterno-mastoid muscle and the sternal end of the clavicle. It is rare that they are ever observed more within the edge of this muscle, or at all behind it.

2. Their orifice is always very small, and in some cases it is scarcely visible. The surrounding skin is usually more or less affected; sometimes it is red and projecting, while in other cases it exhibits longitudinal folds, which become more prominent during the acts of respiration and deglutition.

3. The discharge is secreted by an internal membrane, the nature of which seems to be intermediate between serous and mucous tissues.

4. The opening of these *fistulæ* is always directed towards the œsophagus and pharynx. In some cases they make themselves a passage through these canals, while in others they terminate in a cul-de-sac; hence the division into such as are complete, and such as are incomplete. Their *trajet* is manifested externally by a sort of hardish cord that is readily perceptible by the finger, and is similar to the excretory ducts of the conglomerate glands of Wharton, Steno, &c. Those *fistulæ* that are incomplete are usually from half a line to two lines in depth.

5. Dr. Munemayer coincides in the opinion of Dr. Aycherson, that these cervical *fistulæ* are to be regarded as a remnant or vestige of the foetal organization; the parts which represent the branchiæ in the embryo being not completely closed. It is not always quite safe to close them up, especially when they are complete.—(*Med. Wochenschrift*, Juin, 1844, and *Revue Medicale*, Dec. 1844.)—*Ibid.*

M. Flourens on the Development of Bone.—The following three propositions embody the chief results of M. Flourens' recent investigations upon this most interesting subject of inquiry.

1. *Bone is formed by the periosteum.* 2. *It grows by the super-position of external layers.* 3. *The medullary canal is enlarged by the absorption of the internal layers of the bone.*

The experiments, on which the first of these propositions is based, were performed on dogs. A portion of one of the ribs was excised, removing only the bone, and leaving the periosteum behind. It was found that, after the expiry of a few days, a minute osseous nucleus was formed within the periosteum, between the two divided ends of the rib. This nucleus became larger and larger, until at length it

rejoined these ends, the one to the other, thus filling up the void space between them.

The numerous preparations, exhibited by M. Flourens at the Royal Academy, clearly shew that the new bone is formed in the periosteum; that, when it is first formed, it is completely insulated and apart from the old bone; and that it is only by its gradual development and extension that it ultimately reaches the two divided ends of the old bone, thus re-uniting them together.

The *second* proposition—*bone grows in size by the super-position of external layers*—was established by numerous experiments on dogs and rabbits. One of the tibiæ was exposed, the periosteum divided, and a ring of platinum wire was then passed around between the bone and its investing membrane. The wound being then closed and left undisturbed, it was found after a certain period that the new bone that had been formed, fairly invested with its recently-deposited layers the platina wire. The *third* proposition was equally satisfactorily made out by the preparations that were exhibited.—(*Comptes Rendus—Encyclographie des Sciences Medicales*, Oct. 1844.)—*Ib.*

On the Transplantation of the Cornea in Man.—M. Reisinger, in 1824, was the first who proposed to treat incurable central leucoma by substituting the clear cornea of a living animal for the (previously removed) cornea that was rendered opaque by disease. If we may quite credit his statement, he succeeded perfectly on one occasion (in a brute) by this method. Dieffenbach repeated the experiment several times; but in no case with success. Subsequently it has been tried by a good many different gentlemen, and with very various results. On some occasions the transplanted cornea has speedily mortified and fallen off, while in others it has more or less completely united, but shortly afterwards lost its transparency. In a few instances (it has been asserted) not only has this union taken place, but the transplanted cornea has remained perfectly clear.

M. Feldmann, in his recent critical examination of this question, is strongly inclined to doubt whether the operation has ever fairly succeeded; for, in all his experiments, the transplanted cornea has uniformly become not only opaque, but more or less irregular on its surface. It has only been within the last few years that an attempt has been made on the human subject to cure staphyloma in this way. Professor Wutzer of Bonn, and Dr. Kissam of New York, seem to have performed the operation about the same time, and without either gentleman being aware of what the other was doing. The former made use of the cornea of a living sheep to replace the diseased cornea that was excised. The transplantation, we are told, succeeded; but the cornea subsequently became quite opaque in consequence of the ophthalmia that ensued. The Professor repeated the operation on another patient, but with no better ultimate success.

The account of Dr. Kissam's case will be found in the New York, Journal of Medicine for March, 1844. He made use of the cornea

of a pig's eye, securing it in its new position with two ligatures placed in the direction of the palpebral commissures. For thirty-six hours after the operation, there was great chemosis of the eye-ball, so that it was difficult to ascertain the state of the parts. It was then found that the new cornea was adhering: the ligatures were therefore removed. The vision was improved immediately after the operation; but, as the humours of the eye were themselves unhealthy, it was very imperfect. The replaced cornea retained its transparency for a fortnight; then it became opaque, and ultimately it was absorbed.—(*Journal de Chirurgie*, Sept. 1844.)

N. B.—There is an elaborate historical account of this operation in the *Archives Generales de Medicine* for May last.—*Ibid.*

Hydrocele of the Neck.—The tumours of the neck, which M. Maunoir has designated *Hydroceles*, and M. Percy *Hydrobronchoceles*, have often been confounded with genuine goitre; and yet the two morbid states are very different, and they require very different modes of treatment.

As long as the tissue of the thyroid gland is not decidedly altered, but is merely hypertrophied, we may reasonably expect to disperse the swelling by judicious treatment perseveringly employed. Not so, when any actual disorganization has taken place.

The diagnosis is usually sufficiently easy. The experienced practitioner will not confound the hard, irregular, and lobulated masses which are the result of the degeneration of the thyroid gland, with the smooth and uniform rounded tumours, unaccompanied with any change in the colour of the skin, and in which a fluctuation is more or less distinctly perceptible.

Sometimes, indeed, the gland situated immediately in front of the neck, is *parsemée* with cysts which gradually dilate until they acquire an immense size; but even then it will be generally not difficult to distinguish their origin and real nature, and to discover in their circumference some parts of the organ in which they have become developed.

One cyst may attain such dimensions that it compresses the surrounding parts so much as even to cause their atrophy—a condition which probably existed in the second case we propose to relate.

The parietes of the cyst present, in the majority of cases, so considerable a density or firmness, that we are obliged to renounce the treatment by injecting a stimulating fluid into its sac; for this would only induce inflammation of the tumour, without being followed by any adhesion of the opposite surfaces, or obliteration of the cavity.

M. Maunoir was the first to recommend the use of the seton; and most surgeons have followed his practice. In the following two cases, however, the knife was used instead; the success obtained fully justified the propriety of this mode of treatment.

CASE I.—A lady, 30 years of age, had for a length of time been distressed with sharp pain in the cervical region; her sleep was much disturbed, and her general health a good deal affected. Ever

since the catamenia first appeared, there had been a fulness in the situation of the thyroid gland. For many years it produced no inconvenience; but of late the patient was much incommoded by it. M. Fleury, when he first visited her, learned that, for some days previously, her breathing had become so much embarrassed that her attendants were afraid of suffocation. At this time the tumour of the neck was as large as the head of a full-grown child; it was quite smooth and uniform on the surface; the teguments were unaltered, except immediately in front, where they were attenuated and of a purplish hue, indicating incipient ulceration, and did not adhere to the subjacent mass, which appeared to be closely attached to the parts on which it rested. An indistinct feeling of fluctuation was perceptible on moving the tumour to and fro. On making an exploratory puncture, a few drops of a brownish-coloured serosity flowed out; the opening was enlarged with the bistoury, and a large quantity of this sort of fluid, holding in suspension a number of dark coagula, escaped. The patient experienced great relief from the removal of the pressure on the trachea and œsophagus.

Some time afterwards the following operation was performed, with the view of effecting a radical cure of the malady. Two semi-elliptic incisions were made so as to embrace the attenuated portion of the skin on the front of the neck; the integuments were then dissected back from the tumour on either side, and as much of the parietes of the cyst was excised as possible, with curved scissors; but its posterior wall adhered so firmly to the trachea, that it could not be separated with safety. A very great number of blood-vessels required a ligature; many of them had become enlarged to a very considerable size. The wound was then filled with lint, and a roller was passed lightly round the neck. In the course of a few days, a healthy supuration was established, and the internal surface of the wound began to be covered with granulations. A month after the date of the operation, the patient was able to leave her bed-room, and was quite free from the horrible pains from which she formerly suffered; all the inconvenience that remained was an unpleasant stiffness in moving the neck.

CASE II.—A young woman, 23 years of age, had, for ten or twelve years before she consulted M. Fleury, been affected with sharp pains on the left side of the neck, which was considerably enlarged. Immediately in front of the trachea there was a tumour as large as a full-sized orange, and which, independently of the deformity thereby occasioned, distressed the breathing at intervals; and sometimes so much as to oblige her to remain in the upright position during the whole of the night: it appeared to adhere firmly to the air-tube. As I thought that I could feel a fluctuation, I proposed to practise an exploratory puncture. A long narrow bistoury was therefore introduced; and from the wound there issued a small quantity of a creamy-looking whitish fluid.

As little or no relief was obtained from this operation, I determined to adopt a similar line of procedure as in the former instance.

A vertical incision having been made along the entire length of the tumour, the cyst was freely opened, and gave vent to about a glassfull of the same sort of fluid as had flowed out before. On introducing the finger, I felt a large sac, whose cavity extended upwards above the larynx, and downwards to the sternum; its walls were very hard and resisting, and its inner surface was lined with a fibro-cartilaginous covering. This large pouch was filled with lint, after several small arteries were secured by ligature, and a gentle compression kept up by a roller passed round the neck.

A copious and rather foetid suppuration ensued, and continued for several days; but the character of the discharge gradually improved, and the state of the patient was altogether more satisfactory. Repeated injections of chloruretted water were found to be of great use. At the end of the fifth week it was not necessary any more to introduce lint into the cavity; and all that was required was merely to leave a small portion of it in the orifice, in order to maintain this sufficiently open. Two weeks subsequently, the suppuration ceased entirely, and the wound healed.

M. Fleury considers these two cases as sufficient to shew that surgeons should not follow M. Maunoir in unreservedly condemning the treatment of hydrocele of the neck, either by simply incising the cyst and discharging its contents, or else by removing a certain portion of its parietes at the same time. It will be generally prudent to excise a small portion of the sac immediately in front; otherwise the wound will be apt to contract so much as to interrupt the free evacuation of the discharge.—(*Annales de la Chirurgie.*)—*Ibid.*

M. Bouchacourt has recently published two cases of encysted goitre, or hydrocele of the neck, of which he effected the cure first by puncturing and then (immediately afterwards) injecting a solution of iodine—one part of the tincture to two, three, or four parts of the water. In both cases, suppurative inflammation ensued, and the swelling required to be subsequently opened, in one instance with the knife, and in the other with caustic. In the latter case the progress was slow, and for a length of time anything but satisfactory. Several months elapsed before the cure was complete. On the whole, we (Rev.) cannot regard the recorded experience of M. Bouchacourt as very encouraging as to the effects of the treatment which he recommends. He acknowledges that he was indebted to M. Velpeau for the suggestion of using the iodine injection in such cases.—(*Bulletin General de Therapeutique*, Sep. 1844.)—*Ibid.*

Case of Obstruction of the large Intestine, in which the ascending Colon was opened with Success, the Patient dying three Months afterwards of another Disease, by Samuel Evans, Esq. of Derby. [Communicated by William Bowman, F. R. S., Assistant-Surgeon to King's College Hospital].—Lewis Street, æt. 23, a farmer, has been liable for several years to attacks of diarrhœa. In Septem-

ber, 1843, he was seized with violent pains in the bowels, resembling colic, which lasted thirteen hours. About the third week in January the attack recurred, and became more severe on the 5th of February; the author saw him for the first time on the 7th. He was suffering from severe intermittent pains in the abdomen, which was distended, but free from tenderness. There was a distinct swelling in the right iliac region. His bowels had not been relieved since the 5th. Opiates, active aperients, and stimulating injections, were administered during five days without relieving the pain and sickness, or procuring evacuations. On the 12th and 13th, his sufferings were relieved by large doses of the *Liquor Opii Sedativus*. From this time to the beginning of April the size of the belly gradually increased; he also daily suffered many paroxysms of pain; at intervals, large quantities of flatus, and small portions of clay-coloured fæces, escaped from the bowels. The patient's health became much impaired, and vomiting recurred almost daily. On the 25th of March, Callisen's operation, as modified by Amussat, for the formation of an artificial anus in the loin, was proposed, but the patient yielded to the wishes of his friends in postponing it. This emaciation increased, and the abdomen became distended to the greatest possible degree; the evacuations entirely ceased, and the pulse became feeble and fluttering.

April 9th. The operation was performed. A transverse incision, four inches long, was made in the right loin; the ascending colon was opened, and more than two gallons of semi-fluid, clay-coloured fæces were discharged. He recovered from the operation, and by May 9th had gained flesh; the wound in the intestine had healed, but the evacuations escaped entirely by the artificial anus, being restrained by a plug in the orifice, which is removed four or five times a day. At the end of June he commenced passing diabetic urine, and to suffer from thirst.

He rode a distance of six miles in an uneasy cart, and shortly afterwards symptoms of peritonitis supervened, and he died on the 5th. On examination of the body, the cause of obstruction was found to be a stricture in the colon, just beyond the angle formed by the junction of the ascending and transverse portions of the gut. The contracted part was almost as hard as cartilage, and would only just admit a crow-quill; its inner surface was ulcerated. The cœcum was enormously distended, and nearly as large as a stomach of ordinary size; the ascending colon was also much enlarged.

The author remarks that this is the eleventh case on record in which Callisen's operation, modified by Amussat, has been performed in the adult in consequence of obstruction in the intestinal canal. From the previous history of the case, it would appear that the disease had been of slow progress, and of considerable duration; but at the period to which the operation was delayed, owing to the interference of the patient's friends, he was in so alarming a condition that it is impossible to imagine a case more unfavourable for the operation. Two months afterwards he was so much recovered that there appeared to be every prospect of his restoration to health; but these hopes were

disappointed by his imprudence in regard to diet and exercise ; but as far as the operation is concerned, the case was successful.

Sir George Lefevre remarked on the indiscretion of the patient in going about so soon after the operation, and thought this should have been prevented by the medical attendant. Local and general treatment, together with the recumbent position, and strict attention to diet, were essential to the satisfactory conclusion of such a case. He briefly referred to two cases of which he had drawn up a description and published. In one of these cases a lady of distinction in St. Petersburg had had the colon punctured merely for the purpose of relieving the pain caused by distention. In this case the suffering was extreme ; there was incessant vomiting and most urgent distention. A trochar was plunged into the colon, an escape of gas took place, and relief ensued. She died, however, in eighteen hours afterwards. In another case of internal obstruction the patient survived the operation twenty hours. Would an operation of this description be considered justifiable in this country, merely with a view of relieving symptoms, the termination of the case being certainly, either way, fatal ?

Mr. Benjamin Phillips regarded the paper as a very important one. The operation had been performed many times, with various success, both for obstructed bowels and imperforate anus. As far as he knew it had been generally unsuccessful. The operation itself was by no means a difficult one, the real difficulty in these cases being to determine the circumstances which justify the proceeding. On what did the obstruction depend ? Cases of obstruction presented themselves, dependent on the collection of hardened fæces, in which the patient became emaciated, and the symptoms presented all the appearances of internal strangulation, yet these cases were relieved without operation. If the obstruction were the result of disease in the rectum—as, for instance, carcinoma—of which disease Broussais was said to have died, there would be little difficulty in detecting its nature, and an operation like that under consideration might be performed with the chance of prolonging life, but even here we only substitute one infirmity for another, and it might be questionable which was the most difficult to be borne with. It was when the obstruction was situated higher up that it was difficult to decide on what it was dependent, and in what way we should proceed. The contraction, in fact, might exist at the very point at which the operation was usually performed. In Mr. Evans's case there was no indication presented to warrant us in drawing a conclusion as to the precise cause of the obstruction. Indeed, from the occasional passage of clay-coloured fæces, it might have been diagnosticated as arising from fæcal accumulation, instead of being, as it was afterwards found, a stricture of the colon.

Dr. Powell remarked that it was surprising how long constipation might exist in hysterical patients. He related the case of a lady who was constipated for three weeks, and who was relieved by the use of opium and croton oil. On one occasion she had no evacuation for

two months. Injections were of no avail, and she took as much as half a grain of morphia and two drops of croton oil night and morning. In this case he believed the obstruction to be dependent merely on hysteria.

Mr. Davis related the case of a man who had been invalided from the West Indies, and whose bowels were moved only once in three weeks. His health was good; but he was occasionally subject to spasmodic pain in the abdomen. Extract of colocynth with opium was given without effect, and he then took a gamboge pill three times a day, with small doses of Epsom salts. This usually succeeded in procuring an evacuation containing a great number of scybalæ every three weeks. The only unpleasant symptom under which he laboured was occasional attacks of spasmodic colic. Under this treatment his appetite improved, though he would now and then reject his food. He detailed another case of constipation following parturition, in which an evacuation, when it was obtained, was found to contain a great number of scybalæ. He mentioned these cases as illustrative of the effects of proper treatment in prolonged constipation.

Mr. Solly agreed with Mr. Phillips as to the difficulty of determining the cause of obstruction in cases of prolonged constipation. Every surgeon in practice must have experienced this difficulty. He recollected a case which occurred some time since, of a woman who was tapped for what was supposed to be ascites, but which was found, after death, to be simple distention of the colon with fæces, the result of scirrhus of the rectum. He particularly referred to those cases of internal obstruction which resulted from the passage of adhesive bands from one portion of intestine to another. Some years since he had seen a case of this description with Dr. Sutton of Greenwich. He (Mr. Solly) had been called on to pass a rectum bougie in a case of obstinate constipation. This was readily done, no impediment to its passage being encountered. The patient died four days afterwards. A band of adventitious membrane was found extending from the colon to the mesentery, completely binding down the former, and obstructing its canal.

Dr. James Johnson considered that in Mr. Evans's case there was little difficulty in deciding at what point the obstruction existed. The fact of the bougie having readily passed, combined with the ready injection of three pints of fluid, and the position of the distention, indicated that the obstruction was near the caput coli. The operation he considered to have been perfectly justifiable. It was astonishing how long fæcal accumulations might exist without seriously affecting the general health. He had a patient at present under his care, who had not passed any fæces by the rectum for the last three months. He was suffering from a large inelastic tumour near the caput coli, and daily vomited up fæcal matter. His appetite was good, his general health unaffected, and there did not appear to be any signs of a fatal termination. It might be a question how far an operation in this case might be advisable.

Mr. Dunn related the case of a child who was born with imper-

forate bowel, the obstruction being situated so high up that a bougie could not reach it. No operation was performed, and after death the colon was found to be not larger than a crow-quill.

Mr. Blizard Curling observed, that it was by no means an easy matter to reach the colon by operation, particularly in infants, and when that canal was undistended. He related a case in which this was attempted; the surgeon, however, cut down upon the kidney. In a case of imperforate anus, in which attempts to reach the rectum were fruitless, he advised the operation of Amussat; but it was not acceded to. After death, however, he (Mr. Curling) performed the operation, and found it less easy than some gentlemen would appear to think it. By cutting a little too near the spine he came upon the kidney, an accident which he believed had occurred on more than one occasion, when the operation had been performed on the living body. When the colon was distended, and the incision was made a little more externally, there would be no difficulty in reaching the intestine. He agreed with Dr. Johnson that in Mr. Evans's case the cause of the obstruction was sufficiently evident to justify the operation. This case, indeed, offered a sufficient encouragement to other surgeons to resort to this proceeding, particularly in those cases in which the obstruction was as evident as in this instance.

Dr. Taylor remarked, that as Mr. Evans was clear in his opinion as to the seat of the obstruction in this case, the operation was justifiable, and had undoubtedly prolonged the life of the patient. There was nothing in the paper to shew the nature of the obstruction—whether it was carcinomatous or otherwise. The microscope, probably, would be the only means of deciding this. It would appear, however, from the history of the case, that it had originated in simple inflammation. It appeared that the patient had for some years been subject to diarrhœa; this was probably the result of inflammation, which had afterwards proceeded to ulceration, cicatrization, and contraction. He had seen similar cases of contraction from ulceration, the result of fever, though not always situated in the same spot. In most of these cases no operation had been contemplated, and the patients had died from chronic peritonitis before the obstruction had continued sufficiently long to warrant any operative procedure. He thought that one mode of distinguishing whether the obstruction depended simply on the accumulation of hardened fæces or on structural disease, would be to determine whether the patient had previously suffered from inflammation of the bowels. If so the obstruction was probably structural. He had seen these obstructions in the small intestines frequently follow fever. They were the result of ulceration, cicatrization, and subsequent contraction.

Mr. Hilton considered that in Mr. Evans's case the treatment with respect to the operation had been most judicious. The position of the obstruction was obvious, and the operation was therefore justifiable. He referred to cases of obstruction in the intestines, resulting from a twisting of the colon upon itself, and of which he had

lately seen an instance. The operation of Amussat was proposed, but not performed. After death a vertical incision was made in the line of the abdominal muscles, from the false ribs to near the crista ili: there was no difficulty in reaching the colon by this proceeding. The cases mentioned by Sir George Lefevre, in which the peritoneum was punctured, were very different from those under consideration, in which it was the object of the operator to avoid wounding that membrane.

Dr. Watson, from all he had seen or heard on the subject, had come to the conclusion that the question of the operation was to be decided by the special circumstances of each case. In a case like that of Mr. Evans the operation was justifiable, provided the patient had been acquainted with the nature and consequences of the proceeding previously. Other cases might occur, like that related by Dr. Johnson, in which, however, inconvenient, it would be considered advisable to allow fæcal evacuations by the throat, rather than resort to the formation of an artificial anus. Other cases would occur in which it would not be possible *à priori* to decide whether an operation were advisable or not.—*Med. Gazette.*

M. Cazenave on the different Sorts of Caustics.—The *Powder of Dupuytren* is composed of one part of arsenious acid and 200 parts of calomel. It is a mild and very manageable caustic, that is useful in cases of lupus in women and children, when the ulceration is superficial and of limited extent. If the diseased part be dry, it may be necessary to denude it by means of a blister, and then to sprinkle the powder upon the raw surface. A certain amount of heat and painful swelling is usually caused by this application. When it falls off, there is generally observed a decided modification of the diseased surface. A few applications are sufficient to effect a cure in a great many instances.

The *Vienna powder and paste* are remedies of great power in certain cases of lupous ulceration. They are composed of equal parts of powdered quicklime and potassa cum calce. In using it, we take a portion of this mixture, and add a small quantity of spirits of wine, to bring the powder to the consistence of a paste. A piece of adhesive plaster, with a hole in it of the size of the intended eschar, should be laid over the diseased surface, and the paste is then applied upon the exposed part. It is to be left on for ten or twenty minutes, according to the depth of the eschar that is wished, and the ability of the patient to endure the pain.

The *chloruret of zinc paste* is much used in the present day. It is made by mixing one part of this substance with one or two parts of flour, moistening the mixture with as little water as possible. The pain produced by this application usually lasts for several hours. A greyish-coloured eschar is formed; and this, in most cases, remains attached for two or three weeks before it is separated. The surface underneath is generally not ulcerated. M. Cazenave very frequently

has recourse to this caustic, in certain cases of lupus, to destroy the non-ulcerated tubercles.

For this purpose, he usually applies only a very thin layer of the paste, so as not to destroy the entire tubercle; and in this manner he often succeeds in affecting a complete resolution of it, without any scar being left behind.

In very many cases of long standing and deeply corroding lupous ulceration, he gives the preference to the arsenical paste over the two others which we have mentioned; its action is two-fold; local as a caustic; and general, by becoming absorbed, and exercising a potent alterative or modifying influence upon the economy. The following is the formula which he invariably uses:—

Take of White oxide of arsenic, 2 parts.

Sulphate of mercury, 1 part.

Animal charcoal in powder, 2 parts.

When used, a small quantity of this powder is to be made into a thin paste by the addition of a few drops of water; this is put upon the denuded surface—which should seldom or never exceed in extent that of a franc-piece. This application usually produces not only very sharp pain, but also a severe erysipelatous swelling, which lasts for 24 or 36 hours, and is sometimes accompanied with grave constitutional symptoms. Generally these subside very quickly; and then there remains on the cauterized part a hard brown crust, which often adheres for nearly a month, before it is detached.

Fluid Caustics.—M. Cazenave frequently makes use of a solution of the sulphate of copper for the removal of those small warts that often form upon the shoulders and back, and also of certain pediculated horny productions, which occasionally appear upon these parts. A stronger solution must be used for the latter form of cuticular excrescence.

In the treatment of Favus and Tinea, he recommends a weak solution either of this salt of copper, or of the nitrate of silver, or of acetic acid.

Of fluid caustics, one of the most potent and useful is the acid nitrate of mercury. When used to the surface pure and undiluted, it acts as a mere caustic; but when considerably weakened, and especially when applied to a large surface, it is unquestionably absorbed, and then it acts on the system.

It usually causes a good deal of pain and inflammatory swelling. The cases most benefited by its application are those of lupus, in which the ulceration is extensive and not deep-seated.

The erysipelatous inflammation, which this, as well as other caustics—more especially the arsenical paste—are apt to produce, need not be much dreaded; nay, the effects of the cutaneous phlegmasia seem sometimes to be decidedly salutary in the end.—(*Annales des Maladies de la Peau*, Oct. 1844.)—*Med. Chir. Rev.*

Rupture of the Stomach, &c. Trial of Charles Hoyle, for the Murder of Jacob Miller.—Charles Hoyle was tried at April sessions of Somerset County, Pennsylvania, for the murder of Jacob Miller, on the 13th January last. It appeared that on the evening of that day, Hoyle, in company with two others, was returning from town in a state of partial intoxication. On the way they were overtaken by Miller, between whom and Hoyle there was an old grudge. A quarrel ensued, and Hoyle struck Miller once or twice about the head, knocking him against a fence, but not felling him. He immediately recovered himself and proceeded on his way, Hoyle following and kicking him several times about the legs. It was now after night, and dark. Miller went on about half a mile, and stopped at the house of a brother-in-law of Hoyle. He said that Hoyle had struck him. When examined, no injury was found upon his person. He soon started towards home, and some time after was found about two miles farther on, lying on his face upon the ground, and unable to walk. When carried into the house adjoining he complained very much of his head, was sick and faint, and made several ineffectual attempts to vomit during the night. A considerable tumour was discovered behind the the left ear, and blood flowed from his ears and nose. At this time he appeared to be perfectly sensible, and continued so the next day, during which he was hauled home, a distance of a mile and a half, was bled, and took some medicine. On the second and third days, however, he was delirious, but on the fourth day he was again sensible, and died the same evening, ninety-six hours after the affray. Three days afterwards an inquest was held upon the body; Hoyle, in the meantime, had escaped, but was pursued and taken.

A post mortem examination was made by Drs. M'Creery and Berkey, sixty hours after death. There were no signs of putridity about the body. It appeared to be that of a young man, some twenty years of age, of small stature, slender, pale and delicate, and of a strongly marked scrofulous habit. There were no external marks of violence upon the body except a slight abrasion behind the left ear, and one or two about the face. Two sinuses were observed upon the left hip, which were supposed to indicate the existence of morbus coxarius, and attention was first directed to this part. The joint was found completely ankylosed, with great enlargement of the head of the femur, the shaft being carious, so that a probe passed for four or five inches longitudinally through the bone. The disease was evidently chronic and quiescent, exhibiting no marks of recent inflammation.

Upon exposing the brain, its vessels were found very much engorged with dark venous blood, none of them ruptured, however; about two ounces of colourless serum in the ventricles, membranes natural, no softening of the substance of the brain. The viscera of the thorax natural and healthy in appearance, no tuberculization of the lungs.

In the cavity of the abdomen there was a large effusion of *fluid* blood, mixed with the contents of the stomach, consisting of bile and

the ordinary fluid of that organ, which were found to have escaped through a solution of continuity of some three to three and a half inches in extent, in the situation and in the direction of its lesser curvature, commencing half an inch from the pyloric orifice, and extending along the attachment of the omentum minus towards the cardia. The edges were straight, but not smooth. The stomach was collapsed and empty, its mucous membrane pale and somewhat softened, but presenting a remarkable arborescence of its vessels, which were enlarged, some to the size of a crow-quill, and all distended with coagulated blood. This was more particularly the case towards the smaller extremity. There was also an extensive ecchymosis beneath the mucous membrane on the anterior face of the stomach. The spleen was very much engorged, and softened to a consistence scarcely greater than that of coagulated blood, a mere pulp. The liver too was somewhat engorged, but not conspicuously; the other organs natural. *There was not the slightest appearance of contusion upon the abdomen externally.* This was the case of the commonwealth, as it went to the jury.

For the defence, it was submitted that the prosecution had failed to connect the post mortem appearances of the body with the assault of Hoyle; it was urged as extremely improbable, if not impossible, that a man should be able to walk a distance of two miles after a rupture of the stomach inflicted by a blow, or that he should live four days afterwards. It was proved that near where he was found there was ice upon the road, and from the blood and other appearances on it, it was inferred he had fallen upon it, and had been injured on the rough projecting stones which were also there. It was argued also that this was the more likely, as he was crippled by the disease of his hip, and was consequently unable to walk steadily. In about twenty minutes after retiring, the jury brought in a verdict of "*not guilty.*"

It is proper to observe here, that the declarations of the deceased, which were much relied on by the commonwealth for the conviction of Hoyle, were not admitted in evidence by the court; it was, however, given before the inquest. Miller alleged at different times, that Hoyle had returned and assailed him again at the place where the appearances of blood, &c., were found on the road; that he had knocked him down and jumped upon him, and had thus inflicted mortal injury upon him. It was, however, testified upon the trial by both the persons who were with Hoyle, that he continued with them a distance of three miles beyond where Miller said he attacked him the second time; and nearly to his own house.

Now what was the cause of death in this case? Was the stomach really ruptured by the violence inflicted by Hoyle at any time, or was it done by the fall upon the ice and stones, or was it done in any way during life? And if done after death, how? It is quite possible that the stomach might be ruptured by a blow on the epigastrium, and yet no marks be found upon the abdomen, but it is certainly contrary to all received opinion that a man should live for four days afterwards, with a rupture of this extent; the case of St. Martin to

the contrary notwithstanding. But supposing the stomach were not ruptured during life. Then what caused the congestion of the brain, and what agency had it in causing death? Was it the result of violence directly to the head, or of the condition of the stomach as evidenced by the pathological appearances, independently of the rupture, whether those were caused by chronic disease or recent injury? Or was its occurrence entirely incidental, and unconnected with the injuries? We confess ourselves unable to answer these questions to our own satisfaction, from the imperfect history of the symptoms, and of the case, subsequent to the reception of the injury, and in hope that some of those who are familiar with such investigations will throw some light upon it. The case is a curious one, and important in a medico-legal point of view. It will be important, should it be decided that the stomach was ruptured in any way during life, and it will be perhaps not less so, should it be found that it was done after death, without anything having occurred, in either case, which could lead us to suspect such a lesion.

The above report is interesting in several points, but its value is very much lessened by the imperfection of the evidence, and especially as to the symptoms under which Miller laboured during the time which elapsed after he was beaten, until his death. From Dr. M'Creery we learn that he was attended during that time by an "Indian doctor," one who was, of course, wholly incapable of appreciating the symptoms, or of giving any rational account of the case. Dr. M'Creery also informs us, that he "was perfectly temperate in his habits, and had not drunk a drop of spirits on the day of the affray." It appears to us very manifest, that Miller died from the abuse he received on that occasion, the verdict of the jury to the contrary notwithstanding. Nothing is said of his being sick prior to the affray. He was struck "once or twice about the head," and knocked "against the fence," and "kicked several times about the legs,"—but it is quite likely, from what happened afterwards, that some of the kicks extended higher up, without being observed by the witnesses, as "it was now after night, and dark." The immediate cause of his death was, most probably, the injured condition of the stomach. "Softening of its mucous membrane," "ecchymosis," "remarkable arborescence of its vessels, which were enlarged, some to the size of a crow-quill, and all distended with coagulated blood," indicate clearly enough that inflammation had existed, and the rupture that followed may be regarded as the result of the softening caused by the inflammation. When found, after the beating, he was "lying on his face upon the ground, and unable to walk,"—and it appears furthermore, that he "made several ineffectual attempts to vomit during the night," which would seem to shew, that the stomach had been injured at the time, although it might have been only symptomatic of injury of the brain.—*Philadelphia Med. Examiner.*

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effects of an irrational practice. There are still many physicians amongst us who almost invariably have recourse to the use of blood-letting and other debilitant remedies. The effect of such a course is inevitably to render the convalescence exceedingly tedious, and often very imperfect. Many simple cases are thus converted into troublesome and unmanageable ones, in consequence of the impaired energy of the vital forces that has been induced. When the occurrence of the symptoms of adynamic weakness forces such practitioners to discontinue the use of their lowering regimen, they generally resort to the use of blisters and the administration of tonic medicines.

“Let us briefly review some of the features of the disease.

“There is usually a more or less considerable derangement of the stomach and bowels at first. Fortunately we have a remedy, or rather a class of remedies, which is exactly suited for the relief of such symptoms—we allude to emeto-cathartics: they generally act almost magically in removing the symptoms of the first stage of such fevers. After due evacuations both upwards and downwards, not only does the pyrexia usually subside, but all the phenomena of congestion and local irritation that may have been present, are more or less completely relieved. The same decided and prompt benefit cannot, indeed, be expected from the use of these remedies, if the fever has already existed two or three days before they have been exhibited, and if any delirium be present: but even then the relief is sometimes very notable; the headach, stupor, and general prostration not unfrequently ceasing, or, at all events, being very materially diminished, after the action of the vomiting has entirely ceased.”—*Gazette Medicale*, Aout, 1844.

We cordially assent to the practical truth and importance of these therapeutic instructions respecting the use of emetics and purgatives in the first stage of most typhoid fevers. We have often expressed our own opinions on this subject in the pages of this Journal, and strenuously urged our readers to recur to the practice recommended by the older physicians, and most religiously to eschew the evil ways of such advisers as the disciples of the Broussain school. Still, we are not inclined to go quite so far as our French brother, when he goes on to advise the administration (however guarded) of emeto-cathartic medicines in almost all stages of the fever of which he is treating. The paragraph to which we object runs thus:—“At a more advanced period of the disease, when the patients have fallen into an adynamic state, we must be more reserved in the exhibition of these remedies; not that they are not absolutely required or allowable, but only because the state of extreme debility usually present demands that the patient’s strength be somewhat revived before they be given. Such cases require the use of stimulants, such as blisters, sinapisms to the abdomen and extremities, before we have recourse to the *heroic remedy*. However, as soon as the patient’s strength is recovered, we should not delay longer, but resort at once to the exhibition of an emeto-cathartic; it is the sure means of pre-

venting a fatal tendency." This seems to us dangerous advice. It is very rarely judicious to administer emetics in the advanced stage of febrile affections, when there is considerable prostration of strength, unless, indeed, the symptoms of gastric derangement are very obvious, and Nature herself makes an effort to get rid of the peccant secretions of the stomach and duodenum by the way of vomiting. The present is one out of many instances that might be adduced to shew how liable the French practitioners are to carry everything to extremes. A few years ago, the mere mention of an emetic in typhus fever (which at that time was of necessity a *gastro-enterite*) would have been denounced by nine-tenths of the physicians in Paris as incendiary and most dangerous practice. Now-a-days there seems to be a tendency to run to the other end of the race-course; and we should not be at all surprised to hear of ipecacuanha and tartar-emetic taking the heroic seat which has been so long occupied by leeches and "boissons adoucissantes."—*Ibid.*

Two Cases of encephaloid Carcinoma of the Brain; with Observations, by Charles Cowan, M.D., Physician to the Royal Berkshire Hospital.—Examples of encephaloid carcinoma of the brain are not sufficiently numerous to render their multiplication either superfluous or undesirable, and while probably leaving the great question of the nature and origin of malignant disease as unsolved as before, yet, as local affections, and when contrasted with the symptoms during life, they may at all times be regarded as natural experiments, well calculated to assist in unravelling the complicated functions of the nervous centres.

The two following are the only instances of the kind we have met with, and it is rather singular they should both have occurred within a short period of each other.

Of the true nature of the first case we were wholly ignorant, during the life of the patient, beyond feeling confident, as it progressed, of the existence of organic disease, suspecting the presence of tumour, and that, probably, of a tubercular character. When called upon to give an opinion as to the nature of the second case, a very short time afterwards, the general analogy of its history and symptoms with the preceding was sufficiently obvious to justify the inference that it was depending on a similar condition.

Were we to deduce any general conclusions from such limited materials, we should be disposed to assert, that where the local and general symptoms justify the diagnosis of an organic affection of the brain, and when these are accompanied with remittent or intermittent pains of a neuralgic character, gradual emaciation, and cachectic appearance, we might, with high probability, infer the existence of malignant disease.

To give much weight to such an opinion, it would be necessary to tabulate the symptoms attendant upon other forms of organic change, and contrast them with those of a malignant character. Such a task

we have not the means of performing, nor are we aware that others have undertaken it; but, judging from the general impressions which experience has left upon the mind, we are inclined to the conclusion, that the combination of symptoms now enumerated, would be found peculiarly characteristic of that species of disorganization it is the more immediate object of the present communication to describe.

CASE I.—Mrs. P., aged 35, an Italian by birth, with dark hair and eyes, sallow complexion, of an active but somewhat lymphatic temperament, habitual good health, and moderate *embonpoint*, suffered from an early miscarriage and severe flooding, at the close of September, 1844. About a fortnight later, she was attacked rather suddenly with hemicrania of the left side, for which we were requested to see her on October the 19th. She then presented all the well-known general and physical indications of anæmia, the paroxysms of pain, occupying the left side of the head and face, recurring at short and irregular intervals, preceded by a distressing whizzing pulsatory noise in the right ear, and, when at their height, associated with severe lancinating pains through the right arm and leg.

We may at once observe, that the tinnitus was present from the first; that it never wholly ceased for more than a few minutes during her waking hours, until death; that its increase always ushered in a paroxysm of pain; that throughout, it was a leading subject of complaint; that it did not induce deafness, and proved rebellious to every form of treatment. The pains in the right arm and leg became gradually less severe, and ceased after the first fortnight. It was subsequently noticed, that during the fit, and sometimes immediately before, the right arm was relaxed and motionless, recovering its ordinary power when the pain subsided. It was not clearly ascertained whether the sensibility was disturbed, but we believe it was not, nor did the right leg participate in the temporary motor paralysis.

The vision was also subject, during the last three or four weeks, to singular alternations. Sudden darkness and confusion of sight, particularly of the left eye, amounting at times to blindness, would accompany the seizures, and occasionally continue, but in a less degree, for several hours. Her headach gradually extended to the right side, was less and less intense, and paroxysmal, and often fixed in the occiput and orbits. It subsequently amounted to a general uneasy feeling, rather than to pain; and her attacks assumed more of an epileptic character, as indicated by sudden stillness, stupor, and at times insensibility, with occasional rigid extension of the legs and left arm. Within two days of her death, she had been nearly a week almost free from any form of attack.

There was no delirium, and in the intervals of suffering, the natural expression and cheerfulness of the patient might easily have deceived a superficial observer. All mental and muscular effort, however, uniformly tended to bring on her attacks. She preferred the horizontal posture, was disinclined to move, and seemed always comfortable when dozing or asleep. Her nights were, with scarcely an exception, undisturbed.

The digestive functions were not affected; the emaciation was slow, though progressive; and the complexion assumed more of a sallow tint.

She died comatose six weeks after I first saw her, having walked down stairs the same day.

The *treatment* consisted in the diligent employment of all those means which the association of pain and anæmia would suggest. Arsenic, quinine, and steel were freely given, without any sensible benefit; the latter, indeed, appeared injurious. Various combinations of sedatives by the skin and mouth, with counter-irritation, were conjoined; but to no agent could relief be attributed, except to morphia, in sufficient doses to excite drowsiness. Her diet was nutritious, with wine.

As to the *diagnosis*, my first impressions were, from the presence of tinnitus, and the extension of the pain to the right arm and leg, that I had to do with more than a simple case of neuralgia and anæmia, though both the previous history of the case, and the actual appearance of the patient, did not seem to warrant such an inference. I was glad, however, to avail myself of the larger experience of my colleague, Dr. Smith, who, after careful examination, did not see any evidence of more than functional derangement. He recommended change of air, with the free use of quinine and opium. A fortnight later he again saw her, and expressed his fears of the existence of organic change, though unable to determine its precise nature or situation. During the last fortnight, there could be no reasonable doubt of the fact; and from the absence of delirium, convulsion, or permanent paralysis, I conjectured that the probable seat of the lesion was the central portion of the hemispheres. The idea of malignant disease did not once present itself, having never met with any instance of the kind, and there was nothing in the constitutional or local condition of the patient to favour such an opinion.

Post-mortem, twenty hours after death. Neither the bones nor membranes presented any morbid appearance. The brain itself looked externally healthy, except the convolutions of the inferior portions of the middle lobe of the right hemisphere, resting on the temporal bone; these were smoother than elsewhere, and soft and elastic to the touch. The greater portion of the corresponding medullary matter was converted into a red, pulpy, and highly vascular substance, with numerous hæmorrhagic points, and a black coagulum, as large as a hazel nut, in the upper portion, breaking its way through into the ventricle. The latter contained a drachm of bloody fluid. Neither the membranes nor the grey matter were implicated. A thin layer of softened brain separated the diseased from the healthy portions.

The centre of the *posterior* lobe of the *left* side presented precisely similar appearances. The diseased structure had also penetrated into the ventricle, and extended to the posterior surface of the optic thalamus. In the centre of the right anterior lobe, a distinct portion, about the size of a nutmeg, and in an earlier stage of similar trans-

formation was very clearly and beautifully seen, surrounded by healthy brain. The nature of the morbid structure was, in every respect, that described under the term of encephaloid carcinoma.

No other viscus was examined.

Remarks.—The appearances now briefly detailed, sufficiently account for the intractable nature of the case, and satisfactorily correspond with the leading symptoms during life.

We are not aware of any instance on record where a similar cause for tinnitus has been clearly ascertained. It was evidently dependent on the pulsations of the diseased central lobe, which rested on the temporal bone; and these physical conditions, united with increased sensibility of the parts, render the presence of such a phenomenon perfectly intelligible. The fact of increased tinnitus invariably preceding the accession of pain, is interesting, because proving the existence of vascular changes prior to those of the sensibility; and also as illustrative of those singular alternations of activity, so peculiarly characteristic of affections of the nervous centres. The usual symptoms were clearly produced by irregular pressure on the optic tracts, which, on both sides, but particularly on the left, were liable to be influenced by vascular turgescence. A similar explanation applies to the intermitting paralysis of the right arm, the left thalamus being necessarily impeded in its functions by increased vascularity of the morbid growth, and as easily recovering them when the congestion was diminished.

Why the pain should have been of a simple neuralgic character, at first limited to the left side, and affecting the fifth pair, we are unable anatomically to explain. Its connexion with the principal disease was evidenced by its uniform association with the tinnitus on the opposite side. It might, perhaps, otherwise be regarded as an epiphenomenon.

The absence of any appreciable mental disturbance, notwithstanding such extensive though not symmetrical disorganization of the white tissue, is worthy of notice, as in favour of the generally admitted conclusion as to the functions of the grey matter. That no permanent paralysis, no interception of the will, was the consequence, may be explained by assuming, with many physiologists, that the central ganglionic masses are the seat of the motor power.

The injurious effects resulting from all mental or muscular exertion, point out how a local lesion influences the action of the whole brain; but why some palpable deficiency of function does not always accompany structural changes, such as we have described, has not, we think, yet received a satisfactory solution.

It must be confessed, that the physiology of the brain is still but very imperfectly understood, and though much has been made intelligible, far more yet remains unexplained. The duality of all the cerebral organs; their extensive commissural relations; the possible transmission of nervous power from one hemisphere to the parts above or below the seat of injury in the other; the influence of central lesions upon distant parts; also the great difficulty, in illness, of clearly ascertaining the true state of many cerebral functions, have all been

repeatedly adduced in solution of the problem ; but while these conditions may, to a certain extent, be received as explanatory, and can never be neglected in our estimate of cerebral disease, yet we still feel that pathology has not demonstrated that strict accordance between organization and function, viewing the brain as the organ of the mind, which both theory and the results of external examination of the head might have led one to expect. Indeed, admitting the truth of such explanations, we cannot be surprised at our having hitherto comparatively failed, for no examples of cerebral disease, except those involving precisely corresponding portions of both hemispheres, could be considered as wholly satisfactory ; and even here an ingenious mind might easily suggest a doubt.

Before, however, continuing our observations, we shall proceed to the narration of the second case.

CASE II.—Mrs. C., aged 44, mother of sixteen children, brown hair and eyes, sanguine temperament, robust health, active habits, and possessed of an unusually calm and energetic mind, suffered in January, 1844, from attacks of bilious headach, which quickly yielded to ordinary treatment.

In February, she underwent great anxiety and fatigue, in consequence of the alarming illness of a daughter, and was observed to be excited, restless, and to lose her flesh and strength. The following month she occasionally awoke with severe headachs, which gradually subsided after getting up, and was also sensible of peculiar, uneasy, quivering, fidgetty sensations in the legs, particularly the left ; these, at times, forced her to continual movements for relief. She felt as if she could not sit still.

In May, she complained of partial numbness in the left cheek, and was now observed to stagger in her walking ; deviating from a straight line, and to the left, as if she had lost the *directing* power. It was compared by those about her to the effect of slight intoxication. The headachs became more intense, at times agonising, with distressing vomiting, and on the 8th of June, when preparing to ride out, she was seized with præcordial pain and palpitation, violent congestion of the head and face, embarrassed speech, and mental confusion. The day following the power of utterance was impaired, the loss of sensation in the cheek complete, and she was deaf in the left ear. For these symptoms she was bled, leeches, and salivated, and blisters and a seton applied.

For a month subsequently the headachs materially diminished, but the excitement, restlessness, distressing feelings, uncertain movements, emaciation, and general lassitude, gradually increased, and for two or three months she was liable to fits of hysterical laughing, excited by the most trivial cause.

In August her deglutition was rather difficult, and strabismus, principally of the left eye, was noticed, with partial loss of vision on the same side. The headachs returned with still greater intensity, and were referred to the left parietal and occipital regions. The irregularity in her voluntary movements gradually affected the arms as well

as the legs. She required to be held and directed in every act, supported at times by two assistants, and pushed forwards by a third, to enable her to move about the room ; and if by accident she fell when attempting any effort alone, she was quite unable to raise or to assist herself. There was no paralysis of movement or sensation to the last, nor was one side more distinctly implicated than the other ; but the *controlling, the co-ordinating power of the muscular system*, appeared abolished, or nearly so.

For six or eight weeks before death, which took place on February 18, 1845, she was merely removed from the bed to the sofa ; the debility and emaciation became extreme, and the sphincter muscles ceased to act.

Her mental condition, from the first, was characterized by excitement and great restlessness, seeking relief in change of scene and position ; an inability to be quiet ; a certain indescribable distress ; an effort to restrain and conceal what she felt to be at variance with her natural habits and feelings ; a childishness of thought, with great fickleness of memory and attention ; and yet, throughout a long and painful illness, supported with unvarying patience, and no ordinary fortitude, there were intervals of unexpected and remarkable revivals of the natural feelings and mental powers, with a capability of utterance strikingly contrasting with her ordinary state. This singular waking up of the mind occurred within a few days of her death. She appeared sensible to the last.

The decubitus was easiest on the right side ; the bowels were habitually costive, but throughout no symptoms were observed indicative of other than cerebral disease. From an early stage of her illness she was dependent upon opium for sleep.

Everything that medical skill and ingenuity could devise was most assiduously persevered in by her medical attendant, Mr. Maurice, either alone or in consultation. No treatment, however, proved more than palliative, and the greatest relief was from the use of opium and its preparations, chiefly the bi-meconate of morphia.

Post-mortem, thirty-six hours after death.—Extreme emaciation ; scalp dry, thin, and bloodless ; skull of average thickness and density. It separated easily from the dura-mater, and the inner table was deeply furrowed, and of a rather porous structure. All the membranes presented great venous turgescence, with soft dark coagula in the larger trunks ; about an ounce of pink-coloured serum drained from different surfaces to the base. A small quantity of opalescent fluid was lodged under the arachnoid in the sulci ; the membranes were of healthy firmness and transparency ; no bony irregularities.

The cerebral convolutions were deep and numerous ; the grey matter very distinct, and the brain throughout was vascular, particularly the cerebellum.

At the base we found a dark red, spongy, and highly vascular substance, presenting all the well-known characters of encephaloid carcinoma, incorporated with the anterior extremity of the left lobe of the cerebellum, of which it seemed a prolongation, and passing for-

ward in inseparable connexion with the pons, and following the emerging fibres of the corresponding crus cerebri, it terminated about an inch further, without penetrating the ventricle, in the medullary substance of the middle lobe, where it presented a more broken-down and disorganized appearance. It originated about a quarter of an inch posterior to the pyramidal fissure, involved the whole thickness of this portion of the cerebellum, and nearly an inch in width, penetrating irregularly into the substance of the pons and left crus, from which, as well as from the cerebellum, it seemed to grow and sprout. The pia mater only covered it at a short distance from the cerebellum, and the general surface was irregular and shaggy. The line of separation between the diseased and healthy structures was indistinct, but no membrane intervened, nor was there more than very slight softening of the surrounding cerebral pulp. The medulla oblongata, and the pons, were pushed to the right, forming an obtuse angle with the spinal marrow, and the left pyramidal and olivary bodies appeared stretched and slightly softened. The left pneumogastric nerve was thinner and more filamentous than its fellow, and the seventh, fifth, fourth, and sixth nerves, passed over and partially through the morbid growth, and at their exit from the skull were vascular and soft.

At a precisely corresponding point of the right side, in the centre of the white fibres, as they leave the cerebellum to pass over the pons, a small nucleus of encephaloid matter, about the size of a large pea, was imbedded, as if formed at the expense and not by the displacement of the surrounding tissue.

The morbid growth on the left side, was therefore limited by the tentorium superiorly, by the petrous portion of the temporal bone anteriorly, and could only increase in bulk by pressing the mesocephale upwards and to the right.

Remarks.—The correspondence between the lesions discovered after death and the symptoms during life, is, in the instance now before us, more direct than we are often enabled to establish.

Whatever other functions the cerebellum may discharge, it is now generally admitted, from the experiments of Flourens, Majendie, and many others, that the integrity of this organ is essential to the proper association or harmonising of the voluntary movements. The loss of this power formed the most striking peculiarity of the case we have narrated, and the principal seat of the morbid change was in the commissural fibres, which contribute to the formation of the pons, at a point, in fact, of all others the most calculated to disturb and interrupt the normal functions of the organ.

It is interesting to observe, that the movements of the upper, as well as of the lower extremities, were affected, and that much of the difficulty of articulation seemed dependent upon the same cause, though the latter might, perhaps, be referred to direct injury of the motor nerves. The deviation of the patient's movements to the left may be accounted for, either by supposing an inequality of the voluntary, or of the co-ordinating power. Whether attributable to one or both of these causes we are unable to determine.

That no paralysis of sensation or motion, and no convulsive action should have occurred, is not a little remarkable, and can only be accounted for by that wonderful power of adaptation to slow organic impediments, which the system not unfrequently exhibits.

The sudden seizure on the 8th of June, we are disposed to refer either to the sudden shifting of the mesocephale, the result of gradually increasing pressure, or perhaps to the escape of some portion of the morbid structure from membranous restraint. The deafness in the left ear, the imperfect vision and strabismus of the same side, the numbness of the face, the obstinate vomiting, and the fits of hysterical laughter, were no doubt the direct consequence of injury or irritation of particular nerves; while the restlessness and excitement of mind, and the constant tendency to change of position, with the gradual impairment of mental power, may be regarded as the inevitable attendants upon lesions, of the nature and situation we have described.

How to account, in a satisfactory manner, for those sudden, but brief restorations of cerebral activity, to which allusion has been made, we know not. There are many other mysteries yet unsolved, but it is wiser to admit our ignorance, than attempt its concealment by mere speculative ingenuity.

On the subject of diagnosis we can only state, that the existence of organic disease of the brain was recognized by her medical attendant some months before death, but without attempting to define the precise nature or locality of the change. From the absence of paralysis or convulsions we were, ourselves, inclined to the opinion, that the morbid change was further removed from the base than was really the fact; but from a subsequent review of the whole phenomena and history of the case, we think the symptoms would have justified and required a more accurate localization.

It will be observed, in both the preceding examples, that the medullary structure was alone the seat of change; that the membranes were only secondarily implicated; and that the condition was rather one of nutritive transformation than of tumour; circumstances in accordance with the observations of Hooper, Bright, Abercrombie, and others. Of the state of the other viscera, we are unable to speak, nor could we detect, in either case, the evidence of hereditary liability.

Observations.—Why an organ like the brain should be thus affected, we confess to be a mystery beyond our power to make even an attempt to explain. Indeed the whole subject of malignant disease is still enshrouded in deepest darkness, and though some interesting results have been developed by modern researches, the philosophy of the question has yet to be written, and the mind still wanders in search of a clear and comprehensive principle.

However gratifying it may appear to be told by Müller, and other supporters of cytogenesis, “that cytoblasts form cells; that new cells are generated from a nucleus or granule, either inside or outside those of prior existence; that the cells are, under certain circumstances,

converted by flattening and elongation of their extremities into caudate bodies, and that these caudate corpuscles, when placed in lateral and terminal juxta-position, form fibres," we quite agree with Professor Walshe, in thinking, that the origin of the cytoblast is still the great, the unsolved problem; and until this be decided, whatever light may have been thrown on the mode of increase of these products, they have by no means cleared up the history of their origin.

Amidst the multitude of facts now daily presented to our notice, we are sometimes seduced into the oblivion of the paucity of ideas they involve, and are deceived into measuring our progress by the novelty either of explanation or experiment. The intense energy of pursuit hurries us on with the expectation of soon leaving difficulties behind, but when we stop to appropriate the fruit of our labours, we are too often compelled to retrace our steps, and to confess that our journey after truth has again to commence.

This reflection is extensively applicable to the era we are now passing through, a period beyond all others vibratory with scientific excitement, and well calculated to encourage extravagant impressions of our actual advance.

It should never be forgotten that, combined with much inaccuracy of theory and illustration, there is yet much of truth, much soundness of thought, in the works of our predecessors; and that most of the great questions they attempted to solve, though now exposed to more numerous and systematic assailants, are still formidable impediments in our path, still monuments of our continued defeat. Not that we would despise any accession to the territories of truth, however small, or deny that some lasting additions have really been made; but we, at the same time, feel that the tendency is to overrate the extent of our dominion, and to calculate possession by the false standard of ambition.

From the language of many it might be delusively inferred that the brain and its functions were now within the reach of easy and demonstrable elucidation. We are told, for instance, "that the action of the white substance for either volition or voluntary motion, is commensurate and co-extensive; when directed to the convolutions, it reproduces images and ideas of the past that had long been treasured on their leaves; and, when exercised upon the muscles, it excites and sustains the action of these organs, and thus the will, dwelling on recorded sensations, gives birth to memory, and, by exciting the muscular organs, engenders motion." And all this is regarded by many an eager reader as a summary of our astonishingly increased information—the result of minute anatomy of the brain, the announcement of our great progress in physical and metaphysical investigation, and the groundwork of incalculable improvement in the knowledge and treatment of mental disease.

It is thus that we talk ourselves into blind complacency, most comfortably adapt our discoveries to our wants, and lose sight of the greatness of the question by reducing it to the limits of our puny capability to explain.

Into what dimensions would not man be condensed were he left to the tender mercies of some great physiologist? How quickly would he be shorn of his incalculable greatness were he delineated by the pencil of a scientific materialist?

If all that is mere assertion and pure assumption in the statements of those who claim profound familiarity with the structure and functions of man's nervous system, were carefully sublimated in the retort of common sense, the precipitate of novelty and truth would, we fear, be incalculably small, nor easily to be detected amidst the lingering fumes of hypothesis and error.

Ignorant, as we confessedly are, of how the material and spiritual act and re-act upon each other, incapable of more than very partial mental analysis, limited to the examination of the grosser forms of nervous matter, and still most imperfectly acquainted even with these; finding in the little that we know, far more to humble than to inflate—the finite nature of man's powers becomes more and more apparent as he progresses, the fancied depths of his philosophy are reduced to their true shallowness, and while the mind shrinks under the accumulating evidence of its own feebleness, it swells with adoring wonder when visioning the vast and yet inscrutable unknown.

Were the deep consciousness of our weakness more habitually felt, and the ever-fluctuating character of human experience more clearly perceived, what a repulse would be given to the many wild and presumptuous hypotheses now rampant amongst us, and how would that daring spirit of impious inquiry, which seeks to subjugate the supernatural to the laws of inductive science, be controled and driven back by a sounder, a more Christian philosophy.

An age of science, as the present period well exemplifies, is ever closely allied to one of scepticism and gross credulity; and man, in his eager efforts to acquire, too easily forgets the narrow sphere of his powers, indulges in exaggerated, unreasonable expectations, and under the garb of philosophy, and when most glorying in his strength, becomes both the victim and advocate of the wildest delusions.

Every day's observation more and more convinces us, that a well-grounded reliance upon the dicta of Revelation is essential for the safe guidance of science as well as of morals; and amidst the jarring turmoil and confusion of conflicting opinions and startling novelties, the safest course is to breathe more and more of the sobering atmosphere of that truth-speaking volume, where man's true nature and destiny are unfolded, and where much that he calls wisdom is pronounced to be folly.

We shall not apologise for the introduction of remarks, which have no direct bearing upon the subject of the present communication; but our thoughts having for a moment been directed to a consideration of the physiology of the nervous system, we felt it impossible to suppress a brief expression of our convictions as to the nature and tendency of much we are now daily called upon to examine and embrace.

There is ever something more in carefully formed conclusions, than either language can embody or reason define, and a deep conviction

of fallacy may be felt, where the power of demonstration may be feeble. Moral truth thus often shields us from the seductions of intellectual aberrations, and while, unable to disprove, we fail not the less to disbelieve and to avoid.

Such sentiments, we are aware, will ever fail to be popular, and by many be considered as retrograding to the mediæval ages of mysticism and darkness; but satisfied of their truth, and conscious of their comfort, we do not hesitate in their avowal, and would rejoice to be instrumental in their still wider diffusion.—*Provin. Med. and Surg. Jour.*

On the proximate Cause of Diabetes Mellitus, by William Watts, M. D., Consulting Physician to the Nottingham General Dispensary.—In opposition to the opinion expressed by Dr. Prout, “that the proximate cause of diabetes mellitus lies partly in the assimilating organs, and partly in the kidneys,” I advanced, in a Paper which appeared in the *Lancet* for April 15th, 1843, the position, that the proximate cause of the disease in question lies in the organs of primary assimilation only, to the entire exclusion of the kidneys.

In attempting to demonstrate this, I had, among other things, to review the changes which our food has to undergo during the process of digestion; I shewed, on the authority of Drs. Prout and Liebig, that those articles to which chemists have given the name of the saccharine secondary principles, such as sugars, gums, and starch, undergo the following alterations, during their digestion, in a healthy stomach:

They are converted into the oleaginous secondary principles, which, like the saccharine, have a composition destitute of nitrogen. A further change is then effected, by their being animalized, or elevated into the azotized principles, without which their assimilation with the various tissues of the frame cannot be begun.

I shewed that if, from any cause, the digestion of the azotized or non-azotized matters be interrupted, the imperfectly assimilated aliment is either retained in the system to be assimilated at some future time, or is excreted in certain forms from the various emunctories; and also, that the form in which it is either retained or ejected, is determined by the stage in which its digestion has ceased. For instance, if the azotized class of aliment be imperfectly digested, they appear, both in the fæces and in the urine, in the shape of nitrogenized salts or acids. If the digestion of the non-azotized matters be incomplete, having ceased with the conversion of the saccharine secondary principles into the oleaginous, these latter are deposited in the cellular tissue in the shape of animal fat; and if the action of the stomach has ceased before their change into the oleaginous principles, they appear in the alvine dejections and urine in the shape of diabetic sugar, or lactic or oxalic acids.

I also shewed that digestion was really checked in any one of these stages by disease; the appearance of azotized compounds in the urine being the usual result of an inflammatory or febrile condition of the stomach; and I contended that the presence of the saccharine prin-

ciples in the urine was a consequence of an *atonic* condition of the organic nervous energy with which the stomach is supplied, not enabling it to do more than to resolve them into "low sugar," &c., while if the diseased condition of the stomach was such as to assimilate the saccharine principles with the oleaginous, but not to animalize the latter, that it was owing to a state of nervous energy intermediate between that which was indicated by the azotized excretions, and that which was followed by the saccharine.

I further stated, that these three conditions, indicated principally by the composition of the urine and the fæces, were but the consecutive stages of the disease ; that this disease might not proceed any further than its first and very frequent stage, in which the excess of animal matters are imperfectly digested, and in which the conversion of the non-azotized into the azotized is incomplete ; or that it might extend into the second, in which the animal matters are partially digested, and the saccharine and oleaginous principles are only converted into animal fat, and being deposited in that shape, causing great obesity ; or that it might proceed regularly through these two stages into its third and last, in which it constitutes diabetes mellitus, and in which the saccharine principles are excreted as low sugar ; or that it might proceed at once from the first to the last stage, to the entire exclusion of the second, if the exciting causes of the last stage were applied in sufficient force, while yet the disease continued in the first ; but the disease never reached its last stage without going through the first, the prior existence of which was a *sine qua non* for the existence of the last.

The object of the present paper is to confirm the foregoing views. In doing this, I propose, in the first place, to adduce cases, shewing that diabetes mellitus is always preceded by disease, having for its causes those which induce an inflammatory condition of the stomach, and manifesting the symptoms which characterize it.

For the four following cases I am indebted to the kindness and politeness of the gentlemen under whose care they were at the time, and who, further, most handsomely permitted me to derive any information their several reports of the cases would afford.

CASE I.—Maria G——, aged eighteen years, a domestic, ill of diabetes mellitus since the end of February, 1844, gave the following history of her case : Up to her thirteenth year she enjoyed tolerably good health, when she had scarlatina, followed by a tedious convalescence. During that year the catamenial discharge made its appearance, continued with regularity up to the Whitsuntide of 1843, when, she having taken cold, it ceased, and has not since reappeared, since which, leucorrhœa has constantly been present. At that time her health began to fail, there being diminished appetite, distaste for meat, foulness and clamminess of mouth, sour risings, heaviness at the epigastrium, excessive flatulence and drowsiness after eating, crampy pains in the stomach, with disposition to vomit coming on towards night ; the sleep was disturbed by frightful dreams ; she was fatigued and giddy on rising in the morning ; the urine was cloudy, scanty, depositing a sediment on cooling ; constipation ; dryness of the skin

and hair ; and frigidity and crispness of the nails. About Christmas, 1843, she had an attack of fever, on recovering from which she returned to service, where her food was not such as was suitable for her, and she soon began to have severe thirst, gradually increasing appetite, aching and griping pain in the belly, followed by six or seven watery and offensive motions in the twenty-four hours, voided with much tenesmus ; considerable increase both of urine and frequency of micturition ; so that she voided on the average two chamber-pots full daily. These symptoms continued until her admission into the General Hospital, near Nottingham, under Dr. Storer, on the 2nd of April, 1844, when the urine was saccharine, and amounted to four quarts in twelve hours, its specific gravity being $1036\frac{1}{2}$. Her symptoms, when I was permitted to take the case, were, excessive thirst ; great dryness of mouth, especially in the morning ; tongue red, fissured, glazed, feeling sore, and at times as if burned ; a foul taste ; greatly increased appetite ; frequent diarrhœa ; constant pain between the scapulæ ; heavy, dull pain in the loins ; leucorrhœa ; dimness of vision ; harshness of hair ; dryness of skin ; urine, as on admission, four quarts in twelve hours, having a specific gravity of 1036.7. She was made an out-patient, relieved, on the 29th of May, since when I have not seen or heard of her.

CASE II.—William B——, aged twenty-three, farm-labourer, residing at Allington, near Grantham, states, that during the summer of 1840 he suffered much from pyrosis, sour regurgitations, thirst, desire for cold drinks, slightly craving appetite, pain in the loins accompanying the pyrosis, constipation, numbness and tingling in the right arm, to relieve which he frequently immersed it in hot water, constant aching pain across the loins, worse on exposure to cold, or when lifting weights, frightful dreams and sudden startings in his sleep. As winter advanced, his friends noticed that he grew fat, his weight rising to fourteen stone, but towards spring he again lost flesh. During the early part of 1841 he had cold chills, which lasted from one to two hours, and were followed either by burning heat of skin or by sweating. After these he had great thirst, both day and night ; roughness and soreness of the tongue, the tip and edges of which were as if burned ; dryness of the mouth ; constant spitting of a scanty frothy saliva ; craving appetite, especially for sweet food ; sour, and at times hot regurgitation, more so in the morning, and foul taste. After this state had continued about a fortnight, his urine increased steadily in quantity, until he voided ten quarts in twenty-four hours. His urine continuing to pass in such large quantities for two months, he was so much reduced, that he was compelled to quit his place, but he still continued to work occasionally. About fifteen months back he pretty constantly noticed a whitish sediment in his urine, which ceased about four months ago.

When a child he was much troubled with worms, and was never stinted in his food. Since he entered upon farm service, he had been in the constant habit of taking a quart of ale daily, sometimes five pints, after which he had much viscid saliva hanging about the mouth. His food, for twelve years, consisted of flour puddings, meat, bacon,

with vegetables and bread, and he always ate very largely. His symptoms, when I saw him in the General Hospital, where he was admitted, April 13th, 1843, an in-patient, under Dr. Hutchinson, were as follow: The mouth is moist; tongue red, fissured, feels rough; slight thirst; gums softened, at times swollen, and painful; teeth decayed, and broken off short; sour risings in the morning; slight heartburn; soreness at the epigastrium; aching pain between the scapulæ; sense of weakness in the epigastrium, also weight after eating, and much flatulence; costive bowels, with frequent colicky pains; urine very acid, straw-coloured, saccharine, amounting to five quarts; of specific gravity, $1035\frac{1}{2}$, daily; heaviness in the head, and frontal pain; dimness of sight; the sense of smell, which was at one time much diminished, rather improving; loss of taste; memory not so good; irritability of temper; tingling and prickling of limbs; the hair, which used at first to fall off, is now wiry and straight; extremities cold and benumbed; skin dry, scaly, desquamating, and the nails crisp, dry, and fragile. After remaining some time in the hospital he was discharged, much in the same condition.

CASE III.—Mary Anne J——, aged thirteen years and a half, has been ill nearly two years and a half. The following history of the case was obtained partly from the mother, and partly from the girl herself:

While yet an infant, she was fed with whatever food her parents had provided for themselves; as a consequence she grew very fat, and continued so until she attained her sixth year. From early childhood her sleep was broken by startings, alarming dreams, and she talked much in it; she also picked her nose, and ground her teeth. On awaking in the morning, a piece of bread was given to her, to appease her craving for food, and throughout the day she was never without some in her hands, which she constantly picked, rather than ate. When about three years old she began to suffer much from thirst, which was the greatest during the night, and has continued gradually increasing ever since. As she grew up, her bowels became alternately costive and relaxed, the motions being very dark, slimy, and exceedingly offensive. At six years she passed round worms, and has always been troubled with ascarides up till now. At seven years and a half the thirst had so much increased, that her parents regularly took a pitcher of water up stairs for her use during the night, and have at times had to refill it. The appetite had now become so enormous that it was never satisfied: there was a strong craving for sugar, so that she would steal it whenever an opportunity offered, and eat it by the handful; she was also greedily fond of savoury food, such as herrings, bacon, and butter. During the year 1841 she became a patient at the Derby Infirmary, complaining of extreme thirst, dryness of the mouth, craving appetite, wasting of flesh, and such an enlargement of the abdomen as gave rise to the suspicion of dropsy. She was on the books of that institution three times. During 1842 the quantity of urine was very great, and continued steadily to increase. In the July of that year cataract came on in each eye. She was admitted an in-patient, under Dr. Hutchinson, at the General

Hospital, near Nottingham, on October 11th, 1843. When I saw her, the symptoms were as follow: Tongue red, sore, and parched; much salivary secretion, which flowed from the mouth during sleep; extreme thirst; voracious appetite; much heat at the epigastrium after eating; strong desire for sour drinks and savoury food, especially sugar; much flatulence, gnawing pain, and sinking at the epigastrium, coming on shortly after eating; the abdomen is tumid and tympanitic; bowels moved six or seven times a day, for two and three days consecutively, the motions being offensive and watery; then, again, she will be costive for some days; urine, nine pints in twenty-four hours, saccharine, specific gravity of 1034; occasional headach, with nausea, but no vomiting; sleep heavy, and much disturbed by dreams; skin harsh and dry; disposition fretful; much emaciation; dulness on percussion under the left clavicle; fine dry bronchial râles, on deep inspiration, over the entire chest; much dry cough; no expectoration; slight mucous râle in trachea.

CASE IV.—Joseph R——, aged thirty-six, a smith, has been ill of diabetes mellitus three months. *History*.—Fifteen years back he was a coach axletree-maker in Sheffield. The work was very heavy, and the smithy so hot that the workmen suffered much from severe thirst, to slack which they drank large quantities of oatmeal and cold water; and, at times, oil of vitriol and water. Besides these, he also drank, on the average, three quarts of ale daily, which was always new and sweet. One day in three weeks he used to abstain from work, when he would drink six or seven quarts of ale, perhaps more. This was his course of life for about five years, at the expiration of which time he came to Nottingham, and worked as a frame-smith; at first he did not drink more than three quarts of ale weekly, but as work improved, he drank more. During the whole of this time he had plenty of animal food. He now began to suffer severe nocturnal cramps, and much heartburn, on the day after he had been drinking more ale than ordinary; to relieve this latter, he took large quantities of cold water. Two years ago, he went to live at Derby. He there lodged at an alehouse, where he was expected to drink three pints of ale daily. A year and a half back, a gnawing pain at the epigastrium, accompanied with a craving for more food, came on, about two hours after eating, to allay which he ate again. Nine months ago, he noticed that his mouth was always hot and parched. Four months back, there was such an extremely acid regurgitation of his food, as completely to edge his teeth, coming on after drinking any ale, so that he was obliged to discontinue taking it. He now left Derby, returning to Nottingham, where he began to live a very unsteady life, getting drunk three or four times a week, and passing the night in out-buildings. One night, while sleeping so exposed, he was rained upon, and caught a severe cold, so that he could scarcely get about. If at this time he took ale, his stomach felt as if it were on fire. Fourteen weeks back, the thirst had so much increased, that he could not slack it; in a fortnight more, his urine much exceeded its natural quantity, especially in the night, and was voided at more frequent intervals. He noticed that there was a copious sediment deposited, of yellowish

pink colour, for three weeks, since which time the urine has been perfectly clear, and of a greenish-straw colour. He was admitted into the General Hospital, near Nottingham, under the care of Dr. Williams, on April 11th, 1843. His weight was then eleven stone five pounds, being three stone less than when in ordinary health.

Present Symptoms.—There is a good colour in the cheeks; mouth very hot and dry; tongue thinly coated with greyish-white fur; excessive thirst; acid regurgitations; voracious appetite; slight heart-burn; costive bowels; skin moist; urine saccharine, nine quarts in twenty-four hours, specific gravity 1037. He left the hospital uncured. On the 7th of July, in the same year, he was admitted into the sick wards of the Nottingham Union Workhouse, and died comatose, from suppression of urine, on the 9th.

On examination after death, no morbid appearances were found in any of the viscera, excepting the kidneys, on making a section of which, pus exuded from the cut surfaces in small quantities. There was a small hydrocele, with a considerably thickened tunica vaginalis on either side.

When we consider these four cases of diabetes mellitus, with relation to their causes, we find little or no dissimilarity, except, perhaps, in the first (G——), the early history of which is not quite so complete as that of the others, she not being an intelligent girl, and I had not the opportunity of making any inquiries of her relatives. In each of the cases, the causes are as follows:

CASE I.—Maria G——.

Acquired predisposing Causes.—Impaired general health, with gastric symptoms and amenorrhœa.

Exciting Causes.—Continued fever, with enteric complication, followed by too early a return to an improper diet.

CASE II.—William B——.

Acquired predisposing Causes.—Exposure to the causes of gastric, enteric, and verminous diseases, such as the unlimited use of an improper diet in childhood, and a continuance in the same during his youth.

Exciting Causes.—A continuance of the predisposing causes, and drinking cold liquids while heated during harvesting.

CASE III.—Mary Anne J——.

Acquired predisposing Causes.—Improper diet, and too large a quantity, during every period of her life.

Exciting Causes.—The continuance of the foregoing.

CASE IV.—Joseph R——.

Acquired predisposing Causes.—The constant use of cold, acid, or saccharine stimulating drinks, while in a very heated state; the constant intemperance in sweet and new ale.

Exciting Causes.—A continuance of the predisponents, together with exposure to wet and cold.

The first stage, or that of inflammatory dyspepsia, will be seen to have existed in each of these cases.

Of the occurrence of the second, or that characterized by the deposition of fat in the cellular tissues, instances are to be found in

the second and third cases. Of the former, the history reports, "that as winter approached, his friends noticed that he grew fat, his weight rising to fourteen stone;" while that of the latter says, "when an infant, she was fed with whatever food her parents provided for themselves; and, as a consequence, she grew very fat, and continued so until her sixth year." It is not needful to carry the analysis into the symptoms of each case, or we should find that in every one of them they were such alone as are indicative of disease of the chylo-poietic viscera. The only autopsy that was afforded shewed the absence of all marks of organic disease, except in the kidneys, and in the scrotum, those which were found in the former, being such as are the consequences of recent acute inflammation.

I shall now proceed to investigate the circumstances which are attended with the formation of fat in the human body. If, as I have stated, the formation of fat depends upon the incomplete digestion of our food, it must be considered both in relation to the nature of the aliment and the condition of the assimilating organs.

In health, the food of man consists of animal and vegetable matters, and he, being an omnivorous animal, rarely confines himself to either of these two classes exclusively. To exist entirely upon animal food for any lengthened period, proves so repulsive to the taste, that even in the treatment of disease it is impossible to keep any one upon it solely. We have not, therefore, many opportunities of seeing the effects of a purely animal diet upon the system. But when man is placed under those circumstances in which the major part of his food consists of animal matters, as, for instance, when he has been for some time at sea without vegetables, we see the effects of too long a continuance in that kind of diet, in the production, not of fat, but of true scurvy. This does not take place, however, when the major portion of the food consists of vegetable matters. Under these latter circumstances, if the amount of the ingesta exceeds that which is required to compensate the daily waste of the system,—a condition in which a very large class of the civilized community exist, and one also in which some of our domestic animals are designedly placed,—a tendency to the deposition of fat may at once be noticed, and we shall find that, in proportion as the vegetable matters exceed the animal, so the disposition to obesity increases. Of this I adduce the following examples:—

"A woman, who died suddenly at the age of forty-four, weighing twenty-three stone, had subsisted chiefly on vegetables and pastry, and drank large quantities of milk and water, consuming above a gallon in the course of each night. She was totally incapable of rising from her bed, and required three strong men to place her in her chair."

"Thus the negroes of the West Indies, and the Chinese slaves, sometimes acquire an enormous size during the sugar season, by drinking the cane-juice; and it was remarked by Galen, that the keepers of vineyards, who live on nothing but figs and grapes, become fat. The ladies of Tunis and Tripoli are fattened, to please the

tastes of their lords, with farinaceous food, and a seed called ‘*drough*.’ Among the Asiatics there is a sect of Brahmins who pride themselves on their extreme corpulency. Their diet consists of farinaceous vegetables, milk, sugar, sweetmeats, and ghee (clarified butter). They look upon corpulency as a proof of opulence, and many arrive to a great degree of obesity without tasting anything that has ever lived.”

“Ale and porter, drank to excess, are, perhaps, the most ordinary means” (of inducing corpulency). “Akermann gives proofs of the same effect from spirits; and in the *Ephemera of Natural Curiosities* is the case of an individual who generated fat faster, and in larger quantities, upon bread, than upon a meat diet.”

“A few years ago, a man of about forty years of age hired himself as a labourer in one of the most considerable ale-breweries in the city. At this time he was a personable man, stout, active, and not fatter than a moderate-sized man in high health should be. His chief occupation was to superintend the working of the new beer, and occasionally to sit up at night to watch the sweet-wort, an employment not requiring either activity or labour. Of course, at these times, he had an opportunity of tasting the liquor, of which, it appears, he always availed himself; besides this he had constant access to the new beer. Thus leading a quiet, inactive life, in a short time he became of such an unwieldy size as to be unable to move about, and was too big to pass up and down the brewhouse staircase. If by any accident he fell down, he was unable to get up again without help. The integuments of his face hung down to his shoulders and breast; the fat was not confined to any particular part, but diffused over the whole of his body, arms, legs, &c., making his appearance such as to attract the attention of all who saw him. He left this service to go into the country, being a burthen to himself, and totally useless to his employers. About two years afterwards he called upon his old masters, in a very different shape to that already described, being reduced in size nearly one-half, and weighing little more than ten stone. The account which he gave of himself was, that as soon as he had quitted the brewhouse he went into Bedfordshire, where having soon spent the money he had earned, and being unable to work, he was brought into such a state of poverty, as to be scarcely able to obtain the sustenance of life, often being a whole day without food; that he drank very little, and that was generally water. By this mode of living he began to diminish in size, so as to be able to walk with tolerable ease. He then engaged himself to a farmer, with whom he stayed a considerable time, and in the latter part of his service he was able to go through very hard labour, being sometimes in the field ploughing and following various agricultural concerns for a whole day, with no other food than a small pittance of bread and cheese. This was the history he gave of the means by which this extraordinary change was brought about. He added, that his health had never been so good as it then was.”

To these I may add an instance of obesity arising under the too great indulgence in the consumption of bread, in addition to the ordinary food. When the inmates of the Nottingham Union Work-

house were, a few years back, very great in number, amounting to six or seven hundred, one man was entirely occupied in the kitchen to cut up bread for the rest, in which occupation many hours a day have been spent for several months together. One man always petitioned to have this employment given to him, and after he had been occupied in it for some weeks, he began to grow fat, and his corpulence continued to increase in proportion to the length of time he acted as bread-cutter. During the summer seasons, when the number in the workhouse was very considerably diminished, and he had no longer the opportunity of picking up his crumbs so frequently as in the winter, he always lost his corpulency. As his diet was exactly the same in quantity and in quality during both seasons of the year, the formation of fat in this instance must have depended upon his constant habit of putting morsels of bread into his mouth during his employment.

From these instances, it may safely be concluded, that it is to the farinaceous elements, when food is taken *in excess* above the wants of the system, that the formation of fat is principally, if not entirely owing. And this view is confirmed by the fact, that stall-fed cattle attain the largest size, and get the fattest on, those articles of food which contain proportionately the largest amount of starch, gum, or sugar, as wheat or beans, malt, linseed, and the Swede turnip.—*Lancet*.

New Test for Strychnine, by Eugene Marchand.—It often happens that the chemist, when called upon to decide a medico-legal question, experiences some difficulty in proving the presence or nature of certain poisonous substances, either because he cannot procure a sufficiency of the poison, or else the re-agents serving to characterize them are too little sensitive, or do not offer that degree of precision as to allow you to pronounce with certainty in a capital case. Among the organic alkalies thus far known, we are all aware that strychnine is the most poisonous. Hence the discovery of a reaction which enables you to detect with certainty very minimum quantities, becomes a desideratum.

I believe I have attained this object by the following process, which is so sensible as to give a yet very appreciable reaction, even when you operate upon an imponderable quantity of sulphate of strychnine.

When you triturate a very small portion of strychnine with a few drops of *concentrated sulphuric acid, containing a hundredth of its weight of nitric acid*, the strychnine disappears without giving rise to any perceptible phenomenon: but if you add to the mixture merely an atom of *peroxyde of lead*, it immediately develops a magnificent blue colour, which rapidly passes to violet, then gradually to red, and finishes lastly, after several hours, by turning to canary yellow. This reaction is characteristic of strychnine, as it has been impossible for me, up to the present time, to find a substance which acts in a like manner, under similar circumstances.

When you act upon infinitely small quantities of strychnine, it is

ance on the acromion. In two other cases of dislocation, described in the same paper, no such false joint existed, but in both these instances the tendon of the biceps remained entire, though displaced from its groove.

These three conditions can, then, only be considered as evidence that the head of the humerus was thrown *in an upward direction*, but nothing further. Let us next inquire what facts should assist us in determining whether it was originally *directly upwards*, or *upwards and forwards*.

The first circumstance tending to throw a doubt over the former of these two suppositions, is the vast amount of injury inflicted on the ligaments and tendons around the joint, without any corresponding evidence of violence having been exercised on the acromion process. For although, in Mr. Smee's case, fracture of the calvicle was found on the same side, there is nothing to prove that it occurred at the time of the dislocation; nor is it the precise kind of injury that would be likely to occur from a direct and rapid application of force from below, or the end of the acromion. In order to produce so much laceration, not only of the muscles but of the capsular ligament, the head of the humerus must (one would think) have passed for some considerable distance from its natural position; and how it could find room for this directly upwards, without splintering off the acromion in its passage, is a problem somewhat difficult of solution.

The facts, however, which most strongly support the view of the dislocation having primarily been forwards and upwards, are derived from a consideration of the state of the muscles around the joint.

The state of the muscles in the more common forms of dislocation has now been examined in many recent cases, and has been found, for the most part, to correspond so well with what might be expected from an *à priori* consideration of the course and attachment of these muscles, that, knowing the direction in which the bone has been displaced, we may, with tolerable certainty, name the muscles most likely to be found torn, or put violently on the stretch.

The converse of this cannot, however, so readily be inferred; that is, knowing the muscles torn across, we cannot, in every case, infer, from such facts alone, in what direction the head of the bone escaped. This difficulty arises from the circumstance that (owing probably to individual differences in the size and strength of these muscles, the precise direction of the displacing force, and the state of action of particular muscles at the moment of displacement), the greatest variety is found to exist both as to the number of muscles torn and as to the extent to which they are injured.

To take an example:—In a case described by Mr. Curling (Sir A. Cooper on Dislocations, last ed. p. 385), of dislocation of the head of the humerus forwards and upwards, the supra spinatus, infra-spinatus, and sub-scapularis muscles were all torn across at their attachments; whilst in a case related by Mr. Key (in the same work), and in another recorded by Sir Philip Crampton (*loc. cit.*) of the same kind of dislo-

cation, none of the muscles were ruptured, although the supra-spinatus and infra-spinatus were put violently on the stretch.

Nor is this at all surprising, when we consider the great variety of circumstances under which such accidents may occur. In one instance the muscles may act so suddenly and powerfully, and the force may be applied so rapidly, that the parts tear before they can yield; whilst in another case, from the opposite conditions, the corresponding muscles, taken, as it were, by surprise, yield instead of tearing, or offer just sufficient resistance at the moment to cause the head of the bone to roll a little on one side, and pierce the capsule at an interval between the tendons.

Where muscles inserted into opposite sides of a displaced bone are both ruptured, the rupture must be brought about in two different modes; one set of muscles being pushed in front of the advancing bone, the other set being dragged after it; the one being made tense over the head of the bone displaced, the other being stretched over the cavity from which the bone is dislodged.

Of these, however, the latter appears to me by far the more likely to occur, inasmuch as the head of the bone, whilst pushing the muscle before it, and forcing it to describe a curve, tends at the same time to bring the two extremities of the muscle nearer together, and thus causes less actual tension than might at first be supposed.

If this is the case, we may infer that where rupture of fibres, or fracture of the bony attachment, is limited to one group of muscles (the opposing group retaining their natural insertions and healthy appearance), the head of the bone has probably taken a direction away from the muscles so injured, and towards those that have escaped injury.

To apply this to the cases under consideration. It is remarkable, that in both instances the sub-scapular muscle escaped injury, although the supra and infra-spinati were completely separated from their insertions. Under the supposition that the dislocation was directly upwards, it is difficult to explain why there should have been this great difference, unless, indeed, at the time of the accident, the arm had been strongly rotated outwards. Even then I am at a loss, considering the relation of the parts, to understand why the supra-spinatus should have received so much injury, when the teres minor escaped altogether.

If, however, we suppose the displacement to have occurred upwards and forwards, would not this difference in the amount of injury produced be more satisfactorily accounted for?

I am aware it may be said that this is only arguing on probabilities, but, unfortunately, the facts collected from recent cases are so meagre on this particular point, that it is the only mode we possess of approaching the question.

The positions I have endeavoured to maintain are—1st, that there is not sufficient evidence in the cases before us, to conclude that they were instances of the rare form of primary dislocation upwards; and, secondly, that there are reasons for believing that they were origi-

nally displacements of the head of the humerus upwards and forwards.—*Lancet*.

Anomalous Sensations.—There had been an amputation of the thigh performed by Dr. Pancoast before the class, immediately before Dr. Dunglison's clinic, to which he now adverted for the purpose of making a remark or two in elucidation of the subject of sensation, on which he had been engaged during the week in Jefferson Medical College. He said, the main pain attending cutting was caused by the division of the integuments, and had been described by Dr. James Johnson, who had repeatedly felt it, as being a sensation like that which would be produced by the pouring of melted lead on the parts.

A peculiar phenomenon following amputation is a sense of itching or pain in some part of the amputated limb, as the great toe or ankle, and which the class might have the opportunity of verifying by inquiring of the patient. The lecturer referred to this point in order to comment upon the idea entertained by some physiologists, that in all cases in which we recall pictures to our mind of objects which we have seen, in dreaming, for example, the action must commence in the brain and be conveyed back along the optic nerves to the retina, so as to impress the retina from within, as the objects originally impressed it from without. He thought the phenomena in the case of amputated limbs did not favour this view, inasmuch as the sense of itching or pain was referred to a part of a limb which did not really exist, or which had been removed from the body.—*Phil. Med. Ex.*

Severe Injury of the Abdomen, with Protrusion of the Intestines, followed by Recovery, by Hattersly P. Worthington, M. D.—To the Editor of the Medical Examiner.—SIR,—Having read in the number of your Journal for January 27, a communication from Professor Dunglison, with the observations of Dr. Blundell upon abdominal surgery, I am induced to send you the following sketch of a case which lately came under my observation, and which forcibly illustrates the truth of Dr. Blundell's conclusions as to the peritoneum, under severe injury to the abdomen. I regret that my report must be extremely imperfect, as I write entirely from memory; yet as the case possesses much interest, I am unwilling to withhold its publication.

November 8th, 1843, I was called to John Newcomb, labourer in the iron mines, ætat. 40, tall, robust, healthy, and of steady habits. He was lying in a shanty or cabin an eighth of a mile from the bank. The account given me was, that about thirty minutes before I saw him, he was engaged in shovelling earth into a cart, when a portion of the perpendicular bank, beneath which he was working, caved in, falling upon his legs, and projecting his abdomen against the tail of the cart; the horse at the same time starting forward, lessened the force of concussion. He was conveyed on a board to the cabin where I found him. Before removing his clothes I perceived a portion of the intestines and mesentery, comprising about fifteen inches of the

colon, and thirty of the small bowel, protruding from a wound in the right groin, and lying upon the upper part of the thigh. Raising this mass, I perceived a wound extending along the whole course of Poupert's ligament, and downwards, an inch between the genital organs and thigh; the edges of this wound were clean and uncontused, as though cut with the scalpel: the intestines shewing no marks of violence. This wound was evidently produced by the contraction of the abdominal muscles during the fall.

A little to the left, and below the umbilicus, there was a smaller wound, from which a small fold of the intestine presented itself. The edges and neighbourhood of this gave evidence of direct violence from the cart. The patient complained of no pain or uneasiness, excepting an oppression in the region of the stomach, which spontaneous vomiting relieved by evacuating his dinner; the pulse about 70, full and soft.

I proceeded to reduce the intestines, in which I succeeded with no difficulty; bringing the wound together by the quilled suture, making three stitches at the distance of two inches apart. The smaller wound I closed by a few adhesive strips. The dressing, which occupied considerable time, caused my patient but little suffering. I had given him fifty minims (drops?) tinct. opii, and his pulse was less frequent than when I commenced.

There appeared at the wound hæmorrhage internally, though he gave no evidence of its being considerable.

My dressings were necessarily imperfect, not having immediately at command all things requisite for this purpose. The miserable accommodations, or rather want of accommodations, and the exposed situation of the shanty, afforded my patient but a poor prospect for the essentials to his condition, even should he fortunately escape the dangers of the first few hours.

Having before me less dread of any peritoneal inflammation, than the debilitating effects of so large a suppurating wound, I wished to pursue a course of treatment which, whilst it should spare my patient's strength, should be adequate against any peritonitis that might occur. I concluded to refrain from any *violent prospective* anti-phlogistics, and, taking advantage of his present condition, I determined to keep my patient under the sedative influence of opium and refrigerants. On the 10th, there was a *slight tympanitis* and *tenderness*, with *increased thirst*, and harder pulse, but these symptoms yielded rapidly to fomentations to the abdomen. The bowels were now, for the first time, moved by enema.

On the 11th, the patient was easy, surface cool and moist, pulse 60, regular and full; he sleeps well and soundly during the night.

On the 12th, he was removed by my directions to the Baltimore Infirmary, a distance of ten miles, where, under the care of the distinguished Professor of Surgery of the University of Maryland, he has advanced rapidly to recovery.

The sketch I have given will serve to illustrate the question un-

der consideration, and will furnish another evidence in favour of Dr. Blundell's views. That an abdominal wound of eight inches in length, beside the smaller one, under such unfavourable circumstances, should have given rise to inflammation, at no time requiring the abstraction of a single ounce of blood, is certainly a paradox to many of our Profession.

A determination of what is the rule and what the exception in such cases, would tend to impart a most useful confidence in this most important department of surgery. I presume there are many other young surgeons who, with myself, have had melancholy cause to deplore their early acquired dread of this bugbear peritonitis, and have found, when too late, that they have opened their heavy battery of anti-phlogistics against an imaginary foe.—*Philad. Med. Exam.*

Nitrate of Potass in Asthma.—A correspondent of the New York Medical Gazette says, that he has derived essential benefit from using the following remedy in severe attacks of asthma, and has prescribed it for several patients with equal success:—"Immerse thick porous paper in a saturated solution of nitrate of potass, or common saltpetre, and hang it up to dry. At the approach of a paroxysm, inhale the vapour by burning it in the room, or smoking it in a tobacco-pipe.—*Ibid.*

Case of irreducible Hernia, successfully treated by Opium, by J. W. Rowland, Esq.—On Friday, December 17, 1844, at half-past one, I found an old man waiting to see me, who stated that on the day before he had received a blow on his groin, producing swelling and severe pain. On examination, I found an inguinal hernia, consisting of intestine, the size of a pullet's egg, tensely elastic, not very sensitive, and quite irreducible. He said he had been sick, and after the ineffectual attempts to reduce the rupture, he vomited a quantity of frothy mucus. His spare habit, feeble pulse, and irritable stomach, induced me to try the effects of opium, as lately recommended. I gave him forty minims of tincture of opium in an ounce of cinnamon water; directed him to go quietly home and to bed, and to repeat the dose in two hours.

I saw him soon after the second draught was taken; he was free from sickness, had less pain and anxiety, and the hernia was less tense. To repeat the draught at 6 P. M.

At 9, P. M., still improving, but the hernia could not be reduced; directing him to send for me in case of any return or aggravation of bad symptoms, I gave him a mixture containing tincture of opium, twenty minims in each dose, to be repeated every two hours, unless he slept, and in the morning I found him well; having taken 240 minims in eighteen hours without the slightest narcotism.

On being supplied with a truss he returned to his work on the Monday, having escaped the debilitating effects of the usual means employed.—*Prov. Med. and Surg. Journal.*

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PART I.
ORIGINAL COMMUNICATIONS.

ART. X.—*Laceration of the Vagina in a pregnant Female, unattributable to any obvious Cause. Completion of Gestation, without uterine Hæmorrhage, notwithstanding the Existence of Placenta Prævia. Head and Foot Presentation. Is Denman's Description of spontaneous Evolution indefensible? Coexistence of Phlegmasia Dolens and Puerperal Arthritis. Use of the actual Cautery in the latter; being Observations founded on the History of a Woman, who died of the first-named of these Casualties.* By RICHARD DOHERTY, M.D., Honorary Member and Secretary of the Dublin Obstetrical Society.

[Read before that Society, on the 1st April, 1845.]

THE case, I am now to have the honour of bringing under your notice, is one which, I think, can scarcely fail to attract your attention, as it exemplifies a mode of death during pregnancy so uncommon, that it remains, as far as I have been able to ascertain, as yet unrecorded in the annals of midwifery. It is an instance of a fatal laceration of the vagina,

occurring towards the close of gestation, unproduced by any appreciable active agency, and in the absence of that cause, to which it is almost always referrible, namely, the existence of labour. But this case is interesting, not in the closing scene only. Many points, well worth consideration, are presented by its less recent history also. In it are displayed the risks to which both mother and child are exposed, from that common deformity of the pelvis, which results from an unnatural projection of the sacral promontory, and it involves the discussion of certain practical difficulties, such as the occurrence of an exceedingly rare species of compound presentation, and the supervention of an attack of uterine phlebitis, giving rise to phlegmasia dolens, and threatening to produce disorganization of the joints. In relating this case, I shall adopt the rather unusual course of beginning with its termination, and reserving the earlier periods for the last. But I think its peculiarities can in that way be best described and elucidated.

At 7 o'clock on the morning of Thursday, the 13th February last, I was requested to visit Catherine M'Grane, æt. 36, who had then gone to her full time with her eighth child, three of whom are still alive. On my arrival I found her moaning, pulseless, with cold extremities, and collapsed features, tossing about the bed. The hand of death was evidently upon her. The account I received was, that on the Monday previous she had been out walking, and was quite well, in hourly expectation of her confinement, which she thought was delayed many days beyond the usual period. At 8 o'clock on the subsequent morning (Tuesday), profuse hæmorrhage had suddenly burst forth from the vagina, without any apparent cause, and blood was lost, sufficient to fill a *pot de chambre*. Dr. Stevenson saw her shortly afterwards, and from the history given him, was at first of opinion, it was a case of placenta presentation, but on examination, found that no dilatation of the os uteri had taken place. He

applied a cold lotion, and administered an opiate. The discharge of blood then ceased, and during the following day (Wednesday) she had only a slight draining. On the morning of Thursday, however, at 4 o'clock, hæmorrhage again set in, and then, for the first time, she began to complain of pain, which was mistaken by the women around her for the pains of labour, so that when Dr. Stevenson was summoned, at half-past six o'clock, they told him they were sure, that the child would speedily be born. He soon perceived they were in error, the os uteri not having undergone the least alteration, and appreciating the dangerous condition of the patient, requested her friends to obtain my assistance. When I entered the room, her appearance at once announced that she was at the point of dissolution, and as the bleeding had altogether ceased, I could only recommend a continuance of the stimulants and external warmth then in use. An apparatus for transfusion was not within reach. She died about ten minutes after my arrival. I immediately examined the abdomen with the stethoscope, with the intention, if the child survived, of extracting it by the Cæsarean section, but neither foetal heart nor placental souffle could be heard. The operation being thus proved useless, we waited for an hour, in accordance with the wishes of her relatives, and then proceeded to remove the child, to satisfy both the prejudice, which exists against a pregnant woman being buried undelivered, and our own natural curiosity to determine the exact cause of death. In making the post mortem examination, I had the valuable assistance of Dr. Hardy. To him, on his arrival after her decease, I expressed my opinion, that rupture had taken place; for, from the history I received, and from the woman's looks, it struck me the moment I saw her, that it was not mere loss of blood she was dying of; and, in truth, I thought it one of those cases, in which rupture of the uterus occurs almost with the first pain, and before any

impression has been made on the os. But the inspection of the body did not altogether verify my conjecture.

We first passed our fingers into the vagina. At the left side, resting on the brim of the pelvis, lay the foetal head, over which the neck of the uterus, developed to its utmost extent, was spread. This part presented a cushiony feel, which led us to consider it the seat of the placenta. The os was in its natural position, and had evidently undergone no dilatation. At the upper part of the vagina, at the right side, there were some clots of blood; when these were removed, the finger detected a breach in the vaginal wall, parallel with, and extending along the ileo-pectineal line, a part which was not in the least pressed on by the child's head. The brim of the pelvis was so narrowed by a projection of the promontory of the sacrum, that even if the os had been dilated, great difficulty would, most probably, have been experienced in performing the operation of turning. On cutting into the abdomen, the hand was passed around the uterus without detecting the slightest rent in any part of its substance. An incision was then made in its anterior wall, but as the placenta was thus exposed, we drew the womb forwards, and divided longitudinally its posterior surface. A full grown male child was then seen, in a perfectly natural position, and with the liquor amnii still around it. It was extracted, and the cord divided. We then made a minute examination of the peritoneum. The portion covering the uterus was in a perfectly healthy condition; no tear could be detected, no cribriform appearance discerned; nowhere were there traces of inflammation, nor was there effusion of blood into its cavity. But along the brim of the pelvis, at the right side, corresponding to the loss of substance we had observed by examination per vaginam, blood was found effused external to that membrane, and between it and the tissues lining the iliac fossa. There, then, was evidently the seat of the lesion, and from that laceration in the vaginal wall

blood must have proceeded. But in order to discover whether it could possibly have issued from the uterus also, we separated that organ from the vagina, and removed it from the body. On looking into its cavity, the placenta was observed spread over the anterior wall, and extending downwards, so as to cover completely the neck of the womb also. We peeled it off, and it was then evident, that it had not been previously detached at any one point; indeed it was necessary to use a certain degree of force before I could even then thrust my finger through the mucus, by which the os uteri was occluded. When I had done so, that orifice appeared circular in its form, about as large as a sixpence, with a sharp defined margin. As it was thus proved that the sanguineous effusion could not have proceeded from the womb, it follows, the hæmorrhage must have had its origin solely in the laceration, which we discovered in the vaginal wall, and that such was the source of the eruption, is evinced by its being the only situation in which clots existed in the canal. I should observe, we found in the left labium an encysted abscess, from which we removed about an ounce of good pus. This abscess, most probably, arose from some local irritation, and had no connexion with the discharge of blood. Finally, Dr. Hardy measured the brim of the pelvis. Its dimensions were, from the pubis to the sacrum, three inches, in the transverse and oblique diameters four inches and three-quarters. The antero-posterior diameter of the child's head was four inches and three-quarters, the transverse, from ear to ear, four inches and a quarter. We remarked too, that the ileo-pectineal line was rounded off, and did not appear sharper than usual.

We may here pause to consider some interesting features presented by this portion of our patient's history. In the first place, it is remarkable that this woman should have succeeded in bringing forth a living child on three occasions,

notwithstanding the marked deviation from a natural standard, which the pelvis presented. The longitudinal diameter of a child's head, at the full time, averages four inches and a half, the oblique diameter of the brim, to which that measurement of the foetal head is, in its passage, necessarily applied, was, in this pelvis, four inches and three-quarters; in that direction, therefore, there was a sufficiency of room. But the antero-posterior diameter of the brim was only three inches, the very smallest space through which, it is said, a full grown living child can be extruded. Many writers of character consider this as being rather below the necessary dimensions. Joseph Clarke, for instance, estimates the smallest space compatible with the child's safety, at three inches and one-third in that direction, Burns, at three inches and one-fourth. Osborne,* indeed, states that "a child at full maturity cannot be born alive, by any means of nature or art, through the natural passage, when the dimensions of the pelvis are not two inches and three-quarters from pubis to sacrum," which, of course, means conversely taken, that through an opening of that size it may be expelled; and Lilburn† has given an instance of a woman bringing forth two full grown living children, although the antero-posterior diameter of the brim was, he says, "certainly less than three inches." But I think we shall consider the latter author mistaken in this particular, and be led to side against both, and with the more numerous authorities, when we remember, in the first place, the difficulty of making an accurate admeasurement of the pelvis during the life of the individual, and in Lilburn's case the patient recovered, and he had not an opportunity of verifying his estimate by post mortem examination. Secondly, if we take the biparietal diameter of the foetal head, at three inches and three-

* Essays on the Practice of Midwifery, by William Osborne, M. D., Lond., 1795, p. 350.

† London Medical Gazette, vol. xix. (1st for 1836-37), p. 933.

quarters (and that is certainly rather under than above the average), and recollect, that the pressure arising from the uterine contractions cannot effect a diminution to a greater extent than from six to nine lines,* and moreover, that the transverse diameter of the base of the skull, which is incompressible in its nature, is fully three inches, we shall, I think, be ready to acknowledge that the antero-posterior diameter of the pelvis, with which the transverse of the foetal head comes, during its transit, into apposition, must be at least that to allow the child to pass, even without mutilation.† It is strange, therefore, our patient with this, the very lowest standard, should have produced three mature children, which survived. On two of these occasions her offspring was a female, and then her labours were concluded, although at the full time, without much trouble. One was her very first confinement, and she was then only eight hours ill; with the second female child, her third conception, also full grown, she was but seven hours ill. Of her male conceptions only one was born alive, and with it, although it was her sixth, and it was by no means, as I am informed, of large dimensions, she was ill a day and a night. With all her other male children, she had very difficult labours, except in one instance, in which she had gone only to her eighth month. Her second conception was a boy, and although her first labour was comparatively a short one, this was only concluded after an agony which extended over two days and a night, and then her child was still-born. These circumstances illustrate another interesting point in practice, one which has lately particularly engaged the attention of Pro-

* *Lehrbuch der Geburtshülfe.* Von Dr. H. F. Naegele. Erster Thiel. § 126. Mainz, 1843.

† “If there be not an aperture measuring four inches by three, the uterine contractions cannot propel any other than an infant under the usual size.” Hamilton's *Prac. Obs.* ii. 128, Lond., 1836.

fessor Simpson,* namely, “that a female infant of the ordinary weight,” to use the words of Hamilton, “can safely pass through an aperture, which cannot permit the passage of a male infant of the same weight,” or as I should rather say, maturity. “In cases of difficult parturition from a distorted condition of the pelvis,” observes Dr. M’Keever, in his Essay on Laceration of the Womb, “even the twentieth part of an inch may materially influence the result to both mother and child.” Now the transverse diameter of a full-grown male head, from ear to ear, is at birth an eighth of an inch greater than the corresponding diameter of the female head. It is no wonder, therefore, that when the inlet of the basin is encroached upon by a projection of the promontory of the sacrum, as in the present instance, the circumstance of the offspring being of the one or the other gender should exert a considerable influence over the issue of the case.

Another point worthy of notice, is the existence of an abnormal implantation of the placenta during her last pregnancy, and the absence, nevertheless, of the dangerous consequence, which is almost inseparable from it. I have already mentioned, we found the placenta, on post mortem examination, extending over the anterior wall, and occupying also the entire of the lower segment of the uterus, and yet she had gone to the utmost limits of gestation, without the slightest discharge of blood having at any time issued from the womb. Before entering on a consideration of the probable cause of this fortunate, but rare coincidence, I may briefly mention the opinion, I entertain, of the mode in which presentations of the placenta are produced. Such cases are divisible into two classes, those in which merely a lobule of the placenta overlaps the os uteri, and those wherein the placental mass is wholly engrafted on the cervix. In their

* See his elaborate article in the Edinburgh Medical and Surgical Journal for October, 1844.

origin, I apprehend, they are quite distinct. The former arises from the placenta when originally attached in a natural situation, as denoted by the insertion of the cord, growing irregularly, and thus extending a portion of its margin into the cervical region of the uterus, in which case it gives rise to, for the most part, merely a partial placental presentation; and this is the more usual form of the anomaly. But the occurrence of full placental presentation, where that substance springs from the whole disk of the mouth of the womb, is, I believe, referrible to a deficiency in the decidua, which should naturally extend across the orifice of the Fallopian tube, and the absence consequently of the support, which ordinarily it is thus enabled to give to the ovum, as it enters the womb. I think it must be evident to every reflecting mind, that a wise provision is designedly made by nature for the purpose of preventing the ovum from falling towards the os, and there taking up its residence. The reflexa, a membrane which, be it remembered, does not exist in quadrupeds, in whom no such danger could arise, must have the effect of maintaining it at the upper part of the uterus. But let the decidua be imperfect, or the ovum descend into its cavity before that membrane has acquired sufficient consistence and tenacity to resist its weight, the ovum must, I conceive, make its way to the neck of the womb, and give rise to an implantation of the placenta there. And this opinion is not a mere baseless supposition, unsupported by evidence, but is drawn from certain cases recorded for a totally different purpose. Thus, in the instance related by Lee, of a young woman who poisoned herself in the second month of pregnancy, wherein he found (as, in his opinion, is invariably the case) the Fallopian tubes pervious, the ovum had taken up its position at the os, and was forming its placenta there;* and Sir Everard Home† details the case of a

* Medico-Chirurgical Transactions, vol. xvii. 493. London, 1832.

† Philosophical Transactions, 1817, Part ii. p. 252.

female, pregnant eight days (a period far shorter than that which the product from the ovary usually takes to arrive at the womb), in whom a small ovum was detected near the cervix uteri, in the midst of long filaments of coagulable lymph; in her the os was completely closed, but the orifices of the superior angles of the uterus were uncovered by decidua.

As to the mode in which hæmorrhage is produced, when the placenta occupies the lower segment of the womb, an ingenious theory has been lately broached by M. Gendrin, in his *Philosophical Treatise on Practical Medicine*, a work characterized, in general, by sound and comprehensive doctrines, based on the experience afforded by the wards of La Pitié. The view which he has announced is, that the placenta grows, not by extending its edges, but by increasing its centre, according as room is made for it by the enlargement of the womb, its margin never making any advance; and that the rupture of vessels, which produces the flooding, is caused, in placental presentations, not by the expansion of the lower segment of the uterus exceeding the accretion of the placenta, and so tearing up their attachments, as is now believed, but, on the contrary, by the neck of the womb being unable to make progress equal to the rapid development, during the latter months of pregnancy, of the organ implanted on it; he believes, in fact, that the bleeding in placental cases is from ruptures in, or exudations from the placenta, and not from denudations of the uterine sinuses.* But, in the first place, that the hæmorrhage issues from the womb, and not from the placenta, is evinced by

* *Traité Phil. de Méd. Pratique*, par A. N. Gendrin, D. M., tom. second, p. 222. Paris, 1839. Hamilton entertained the same ideas as to the source of the blood. "The author," he observes, "from the earliest period of his professional life, has been anxious to shew that the hæmorrhage in those cases proceeds more from the separated portion of the placenta, than from ruptured uterine vessels."—*Op. Cit.* p. 226, Part ii.

the child being sometimes born alive in these instances, and by a case given by Ingleby, in which the practitioner cut away a part of the placenta which obstructed the mouth of the womb, and yet no discharge of blood escaped from the cut surface.* Secondly, if the growth of the placenta were, by addition to its centre alone, and not by extension of its edges, it should, I conceive, always maintain a strictly circular form, and yet we know how frequently it presents inequalities and irregularities in its circumference, "the edges of it terminating in a broken manner, forming somewhat like the lines of a very irregular island on a map."† And thirdly, the supposition that the hæmorrhage is caused by the placenta outgrowing the uterus, is at variance with the fact, that in some cases of *full* placenta presentation, bleeding does not exist during the development of these organs, but arises, for the first time, only when labour sets in. The possibility of an occurrence so contrary to general experience, has not escaped the notice of Dr. Rigby, Jun. In giving an example, in which the placenta was centrically placed, and yet there was no gush of blood, until the patient had gone her full time, he asks, "are not those hæmorrhages from placenta prævia, which make their first appearance in the seventh and eighth months of pregnancy, generally connected with a partial attachment of the placenta to the os uteri; and, on the other hand, when it is centrically attached, does not the patient usually go to the full term of gestation before any hæmorrhage takes place?"‡ I am now in a position to answer these questions. I have been engaged in examining the records of cases of this description, and although in many the distinction is not sufficiently drawn between a partial and full presentation, nor the period of the first occur-

* *Lancet*, 1st vol. for 1839-40, p. 943.

† *An Essay on Uterine Hæmorrhage*, by Edward Rigby, p. 140. Norwich, 1822.

‡ *Lond. Med. Gazette*, vol. xiv. (2nd for 1833-34), p. 368.

rence of hæmorrhage defined, to make them available for our present purpose, I have collected a sufficient number, of which the details are accurately given, to prove, that where there is merely a bit of the placenta overhanging the os, the woman scarcely ever goes beyond the seventh or eighth month without an alarming discharge of blood; while, on the other hand, although with a full implantation, hæmorrhage, in the greater number of instances, bursts forth at intervals during the latter months, it is not a very unusual circumstance to find such patients proceed without any sanguineous loss till their term is completed;* and I should explain the difference in this way: when the placenta springs from the cervix, or, as in our patient, although originally commenced on one of the walls of the uterus, as indicated by the root of the cord, it enlarges to such a magnitude as to cover completely the neck also, its growth has been sufficiently concentrated or extensive to keep pace with the circular expansion then progressing in the inferior chamber of the womb; whereas, when the substance, being at first elsewhere affixed, does not exceed its usual proportions, but is merely developed so irregularly as to advance a portion of its margin over that part, its growth is expended in other directions, and it becomes unable to adjust itself to the daily increasing size of the region into which it has, as it were, strayed.

Having disposed of these interesting peculiarities in the case, the next point for consideration would naturally be the laceration of the vagina, the immediate cause of death, but I think it better to postpone entering on its discussion, until

* A statement of an opposite tendency is made by Gendrin. Speaking of floodings, he says: "Il arrive même qu'elles ne se montrent, qu'au moment du travail de l'accouchement à term; c'est qu'alors il n'y a qu'une très petite portion du placenta en rapport avec le col utérin."—*Op. Cit.* p. 192. M'Grane's case alone would disprove the latter part of the sentence.

the particulars of her previous confinements are related, as the difficulties and dangers she then underwent throw a considerable light on the mode of its production. I shall recapitulate her labours in the order of their succession, and dwell particularly on one, during which she was under our observation in this hospital. Her first child was a girl, who was born alive after an illness of about eight hours; her second was a boy, still-born, after a labour which extended over two days and a night; her third was a girl, alive, after seven hours' labour; in her fourth confinement she was delivered in this institution with the crotchet, and afterwards had an attack of phlebitis; her fifth conception was a boy, still-born, at the eighth month; with it she was not long ill. Her sixth was a boy, now four years old; on this occasion she was attended by a midwife; her labour lasted a night and a day, and after its termination she had profuse hæmorrhage, requiring the introduction of the hand to remove the placenta. In her seventh pregnancy she had the advantage of Dr. Stevenson's assistance. During its last three months, he informs me, she had occasional draining; she went, however, to the full time, and when labour came on, the foetus presented by the foot; he had considerable difficulty in extracting the head, and afterwards flooding occurred to an alarming extent; the child, a boy, was still-born. Her eighth conception was also of the male gender, and she died, as I have related, before the accession of labour. Her fourth confinement, of which, as I have mentioned, I had been an observer, is so remarkable, both on account of the peculiarity of the presentation, and the wonderful escape she afterwards had from puerperal fever, that I shall transcribe the notes I made at the time almost in full.

She was admitted into the Dublin Lying-in Hospital at 7 o'clock on the evening of Thursday, 13th December, 1838. At a quarter past eight o'clock, the membranes having been reported by the midwife on duty just ruptured, and the

os being fully dilated, the funis and left foot of the foetus were found, on examination, protruded into the vagina at the right side, followed by the head, which had advanced into the brim on the left side. The proportions of the inlet of the pelvis were recognized as considerably reduced below a natural standard by an unusual prominence of the sacral promontory; the cord was then beating sixty in the minute. She stated she had gone to her full time. An attempt was made to extract, by drawing down the foot, while with the left hand pressure was applied to the head, in order, if possible, to push it up. This mode of delivery being found impracticable, an opposite proceeding was tried. Dr. Evory Kennedy, who was then Master of the hospital, endeavoured with the long forceps to bring down the head, but perceiving that more force would be required for extraction than was consistent with the patient's safety, soon desisted from his efforts; by that time the funis had ceased to pulsate, so that there could be no object in withholding the use of the perforator; the head was accordingly lessened, and traction with the crotchet then tried. This plan, however, was found to be attended with difficulty, it was, therefore, abandoned, the foot drawn down, and version being thus accomplished, delivery was easily effected. The placenta came away of its own accord. About an hour afterwards there was slight hæmorrhage, which was checked by making the uterus contract to the smallest possible size by means of friction, and then maintaining it so by pads placed within the binder. An opiate was administered, and, as was the custom of the hospital in all cases that required manual assistance, calomel and chalk, in the proportion of half a grain of the former to two of the latter, were directed to be given every second hour, in order that, if symptoms of inflammation should afterwards manifest themselves, no time might have been lost in bringing the system under the influence of mercury.

Friday, December 14th (first day after delivery). Passed

a restless night; pulse 108, feeble; countenance pallid; tenderness in right iliac region; no lochial discharge; bowels confined.

Enema commune. Hirudines xxiv. part. dol. Conr. pulv.

10 o'clock P. M. The pain still continuing, two dozen leeches were again applied at 7 o'clock, since which she has felt much relieved. She does not now shrink when pressure is made on the iliac region; pulse 120, soft; countenance rather improved; breathing natural.

Saturday, December 15th (second day). Pulse 112, soft; tongue moist; abdomen full and tense, almost free from tenderness; the uterus is large, and lies towards the left side; lochia have appeared; countenance calm; no mercurial fœtor.

Sunday, December 16th (third day). Pulse 124, small; great tenderness over the trochanter and above Poupart's ligament at the right side; passed an uneasy night since 3 o'clock on account of pain in those regions; no rigor; discharge was copious yesterday, but now is pale and scanty; countenance dejected; no appearance of milk.

The actual cautery was immediately applied extensively to the hip. Two dozen leeches to the right groin. Besides the powders, mercurial inunction.

9 o'clock P. M. Pulse 132, of sufficient strength; she says she found great relief from the deep pain in the hip from the application of the hot iron; still some tenderness in the iliac region, a little higher up than it was reported this morning; abdomen very soft; bowels frequently moved; gums present no appearance of mercurial action.

Opīi gr. i statim. Calom. gr. ss. Digit. et Opīi āā gr. $\frac{1}{4}$, 2da qq. horâ.

Monday, December 17th (fourth day). Slept well and comfortably, and says she is much better this morning; pulse 134, good; tongue moist; countenance improved; abdomen tumid and tympanitic; uterus large, but not tender; she

still shrinks when pressure is applied to the right iliac and over the hip, but has no pain in the latter, even on moving the limb; diarrhœa arrested; lochia pale and scanty; strength, she says, is rather increased; no milk, gums not affected.

Tuesday, December 18th (fifth day). An œdematous state, and fulness of the upper part of the right thigh, having been perceived at last night's visit, six leeches were applied to it; the cellular tissue to-day feels hard and condensed; there is still some tenderness and fulness in the iliac region of the affected side; no deep pain in the hip; bowels frequently moved; pulse 120.

A small oil draught with opium. Calom. Digit. āā gr. ss. Opii gr. $\frac{1}{3}$, 2da. qq. horâ. Blister to right iliac. Ung. Hydr. Opiate at night.

Wednesday, December 19th (sixth day). Purging continuing yesterday, chalk mixture was administered with success; pulse this morning 120, firm; tongue moist; abdomen soft, a little tumid, but free from pain, even in the right iliac; complains still of some pain in the hip; had a comfortable night's rest, and looks well; no mercurial fœtor.

9 P. M. Had a severe rigor an hour ago; pulse now 120; abdomen more tumid and tympanitic; bowels twice moved; hip more painful; condensation of the cellular tissue has extended down the upper third of the thigh; a red patch on each cheek.

A blister to the hip. Cont. remedia. An opiate draught.

Thursday, 20th December (seventh day). Passed a very uneasy night, wandering; pulse 112, feeble; no pain in abdomen, but complains much of the hip; tongue foul; thirst; eyes sunk; countenance dejected; no vaginal discharge, nor milk; gums not touched; diarrhœa.

The mercury was omitted; she was put on the use of morphia, and allowed chicken broth.

Friday, 21st December (eighth day). Slept pretty well,

and feels better to-day; pulse 108; tongue natural; free from pain on pressure in abdomen; a doughyness extends from the crest of the ilium, to the junction of the upper and middle thirds of the thigh externally; not much pain in the hip, which is covered with vesications, half filled with a thick yellowish fluid; she can move it freely.

Cont. Mist. Morph. Poultice to hip. Jelly, with a little sherry.

Saturday, 22nd December (ninth day). Slept well; pulse 120; hip more red and swollen to-day; fluctuation imperfectly felt.

Morphia mixture; broth and jelly.

Sunday, 23rd December (tenth day). Slept pretty well; free from pain; extension of condensation towards the inguinal region.

Cont. remedia. Quinæ gr. iii. in die.

Tuesday, 25th December (twelfth day). Pulse dicritical, still quick; an abscess has formed over the hip, and pointed at the anterior part of the trochanter; incisions were made into it, and then it appeared there were three or four depots of matter, not communicating, and containing a large quantity of dead cellular tissue.

Sunday, 30th December (seventeenth day). Passed a restless night, in consequence of pain in the hip; an ulcer now exists there, about three inches in length, and two in breadth; a large mass of cellular tissue hangs out of it; its depth is about an inch and a half; at its inner margin an inch of the sartorius is cleanly dissected, its edges are thick and undermined; redness and tendency to slough extends down the entire of the upper third of the thigh.

Quina, Morphia, and Ammonia. Porter, &c.

Monday, 31st December (18th day). A large piece of cellular tissue, which was hanging out of the sore, and creating irritation, was cut away; the sartorius is more exposed, and the vastus externus laid bare to the extent of two inches.

From this period she continued to improve in strength; in a few days the ulcer began to fill up, and her pulse diminished in frequency.

On the 28th day, Thursday, 10th January, an abscess made its appearance below the spine of the left ilium, and obscure fluctuation could be felt: next day, an opening being made into it, a quantity of good pus was evacuated. Her strength became rather increased; she had no night sweats nor hectic, and towards the end of that month, she was sent out for change of air. The ulcers shortly after completely healed, and though she continued lame for some weeks, her health is stated to have become completely re-established.

In the series of remarkable events comprised in this portion of our patient's life, is exemplified one of the very rarest forms of presentation at the full time; a presentation so uncommon, as not to receive so much as an allusion from most writers on Midwifery. In Dr. Joseph Clarke's Abstract of the Registry of the Lying-in Hospital of Dublin, for six years and nine months, which embraces an account of 10,387 deliveries, the head and foot did not present together in a single instance;* nor is there an example given in Dr. Collins' admirable work, displaying, as it does with such minuteness, the results of 16,414 cases. The experience of Janson, of Ghent, which extended over a period of forty-one years, during which time he became acquainted with the circumstances attending the confinements of 13,365 women, does not afford an occasion on which such a presentation was witnessed.† Madame La Chapelle, however, in her summary of 15,380 births, gives two examples; and in Madame Boivin's *Memorial de l'Art des Accouchemens*, which, exhi-

* Transactions of the King and Queen's College of Physicians in Ireland, vol. i. p. 400.

† London Medical Gazette, vol. xxv. (first for 1839-40), p. 893.

biting the results of practice at the *Hospice de la Maternité*, and including the cases admitted into the *Maison d'Accouchemens* while Baudelocque was *chef*, records 20,357 labours, this presentation is stated to have happened once. Thus there are but three examples in these tables, which form a catalogue of 75,903 deliveries.* It is not unusual, indeed, to have a *premature* foetus expelled doubled upon itself; for, as Rigby observes, “a child, which has not been carried to the full time, or has been dead for some days, may come *any how*,” but so infrequent is such an occurrence as the head and foot being simultaneously engaged in the pelvis, when the child is full grown, and still alive, that the same distinguished writer actually denies the possibility of its happening spontaneously. “Nor,” he observes, “can the position of the child exist in nature, where the feet and head are wedged together in the pelvis; but I will not deny that it can be *made* during an unsuccessful attempt to turn the child, in which case the feet may have been pulled down into the os uteri, and yet the head has not quitted the pelvis.”† Here, however, was an instance in which this presentation did occur, and certainly without being *made*, as no interference whatever was previously adopted, and it was discovered on the bursting of the membranes.

The proper mode of treatment to be employed under such circumstances, this case I believe also exhibits. On this subject the few writers who make any mention whatever of the occurrence, do not altogether agree with each other, or give but imperfect directions for its management. “In some cases,” says Denman, “we are enabled to feel the head, a foot, and an arm, at the same time, and it will then

* Most of these tables will be found appended to Merriman's “Synopsis of difficult Parturition.” That author had never himself seen an instance of the kind amongst 1800 cases.

† Observations on Dystocia, Lond. Med. Gaz. vol. xi. (first for 1832-3), p. 380.

be expedient to grasp and bring down the foot, and deliver in that manner.”* “After bleeding,” observes Rigby, “we should try to pass a noose round the feet, and when this is done, we may safely push up the head, and the feet will soon descend.” In our case, however, this manœuvre was attempted, and, as we have seen, completely failed. The plan to be adopted appears to me to depend very much on the stage of labour, at which we first observe the existence of the anomaly. We shall suppose that the soft parts are sufficiently dilated to admit of interference. If then the presenting organs float loosely above the brim, either before or after the waters are discharged, we should, I think, ascertain whether the head or foot be the more prominent part. If the foot be more advanced, Denman’s advice should certainly be our guide; for if at this time, that is to say, before any portion of the fœtus has entered the true pelvis, we can only grasp the limb, we are almost sure to be able to make the child revolve, particularly if the uterine pains have previously been allayed. If, on the other hand, the head be evidently settling into the brim, with the foot contending, as it were, for priority, our best plan is, in my opinion, to keep up the foot till the head has descended, and so make of it a natural presentation. This mode was successfully adopted by Ramsbotham under the following circumstances. “About 8 P. M., on Friday, November 10th, 1820, my opinion,” he relates, “was requested by a respected medical friend, in the case of a lady, the mother of several children, which she had usually passed without difficulty or much delay, and therefore some unusual cause of protraction was suspected. The presentation was long in making its appearance. On instituting an examination in the usual way, I readily reached

* Denman’s *Midwifery*, Lond. 1801, p. 313. “Occasionally,” remarks Burns, “both a hand and the feet have been found presenting with the head, or the feet and head present. In such cases we can, if necessary, bring down the feet altogether, and this is in general proper.”—*Prin. of Mid.* p. 348, Lond. 1824.

the foot, still at the brim of the pelvis, but I had some difficulty in ascertaining what part was above the foot, though the os uteri was pretty well dilated. I therefore passed my left hand into the vagina, and at the extremity of my fingers I discovered the head, above the brim of the pelvis, with the foot down by its side. Without withdrawing my hand I pushed up the foot, and at that moment a strong uterine contraction coming on, the head was brought down into the brim, so that the foot was left above. Keeping my hand in that situation till another pain came on, I found the head descend without the foot. In about two hours a living child was expelled.* The event in this case was thus perfectly fortunate, but I own, that it is not the practice which I would myself have pursued under the particular circumstances here detailed. The foot, it will be remembered, was much more prominent than the head, which could only be touched by the extremity of the finger after the hand had been passed into the vagina. The facility, therefore, with which the former could most probably have been seized and brought down, together with the fear I should have entertained, lest in pushing up the foot, I might rupture the uterus, for without a certain degree of force, it could not be done—indeed in this case the limb afterwards exhibited the marks of violence—would have induced me to attempt rather the podalic version. Matters, however, are much more serious when these descending parts become blocked up together in the brim of the pelvis. The same capability of altering the position does not then exist, and it becomes a very nice question how we should act. I believe, under such circumstances, the procedure adopted in M'Grane's case, is the one which should be pursued. Firstly, an attempt should be made to bring down the foot, on account of the great command we in that way obtain over the

* Practical Observations on Midwifery, by John Ramsbotham, M. D., Part 1, p. 300. Lond. 1821.

fœtus, and during the trial we should endeavour to cause the head to recede. This plan being found to fail, and the child being still alive, it becomes our duty to give it a chance of existence by reversing the operation, and essaying to dislodge the head with the long forceps. If this too prove unsuccessful, or if the fœtal heart have ceased to beat, we should diminish the bulk which occupies the aperture, by emptying the contents of the cranium, and then we shall be able to induce the body to revolve either in one direction or the other.*

It has often occurred to me, that it is to cases of this kind we are indebted for the description, which Denman has given of spontaneous evolution. I am perfectly satisfied, from what I have myself seen, that the *usual* mode in which this rare process is effected, has been more correctly described by Dr. Douglass; still I am inclined to think, that Denman's explanation is not so devoid of accuracy, as it is now almost universally considered. The important difference between the two expositions consists in this point, that, according to Douglass, the mechanism of the turn takes place in the vagina and pelvis proper, and not, as Denman supposed, in the uterus, and between the alæ of the ilia. In corroboration of my friend Dr. Douglass, I shall detail an instance which occurred in an out-patient of this Hospital, during the time I was connected with the institution.

Margaret Walsh, æt. 30, residing at 80, Summer Hill, was taken in labour at the eighth month of her second pregnancy, on Sunday, July 14th, 1839, at 10 o'clock, P. M. Pains then set in for the first time, although the membranes had ruptured at 2 o'clock on the preceding morning. On Mon-

* It is a prudent precaution, in such cases, to make a careful examination of the abdomen with the stethoscope, lest the presenting parts, instead of being parts of the same fœtus, should belong to separate children.

day, at 8 o'clock A.M., medical assistance was obtained from the Hospital; uterine action was then strong, and on examination the left arm was found completely protruded through the external parts, of a livid colour: it had been there, it was stated, for about a quarter of an hour. The patient said she felt the motions of the child until within the last half hour. Dr. Herdman, then an assistant physician of the Hospital, being sent for by the attending pupil, considered that turning ought to be attempted, and to prepare her for the operation he bled her and administered an opiate. In a quarter of an hour, notwithstanding, the shoulder became more and more pushed out; in a short time the back and breech were expelled in a circular direction, and then the feet and head, the former being placed alongside the latter. The arm which presented did not recede. The child was still-born.

I have also seen an instance, in which this revolution was very nearly accomplished at the full time. Jane Devyly, æt. 25, was admitted early on the morning of the 12th December, 1838, in labour of her first child. She was very irritable, and would scarcely submit to examination. The pains were strong; os somewhat dilated; membranes unruptured; the presentation could not be detected. At 6 o'clock she sat up to make water, when she cried out there was something coming from her, and the right hand of the foetus was found protruded into the vagina. The pains being violent, it was in a few minutes expelled beyond the vulva; the external parts were yet unrelaxed; the shoulder was grasped by the os, which, gristly and unyielding, had enlarged to about two inches in diameter; the upper part of the thorax could be felt; the foetal heart was audible and very rapid. She was bled, and put on the use of tartar emetic; still, though the pains became less forcible, turning could not be accomplished. At 8 o'clock, the external parts were more relaxed; os much more dilated; the shoulder firmly wedged into the brim, and

lower down, so that almost all the ribs could be detected; the arm hung from the elbow out of the vulva; the foetal heart inaudible. While making the examination it was observed, that each pain pushed the shoulder more towards the pubis, and gave the body of the child a tendency to descend. There was no constitutional symptom to demand interference. At 10 o'clock the arm was protruded rather more, the shoulder and entire side of the thorax were on the perinæum; the pains had not ceased, but they were less strong. It was not deemed prudent to allow the labour to proceed further without assistance. An attempt was made to aid the descent of the lower segment of the child with the blunt hook, but owing to the maternal pelvis being undersized this was found not easy of accomplishment. Evisceration through the thorax was therefore resorted to, when the breech escaped, the right buttock being the part which first appeared. In this labour a tendency evidently existed to spontaneous evolution, as Douglass has depicted it, and it would probably have been completed without manual help, but for the smallness of the pelvis, and the subsidence of the pains. The child's legs, too, were placed across each other, and appeared to afford an additional obstacle.

That such is the progress in the generality of cases of this description, few at the present day will deny, or withhold from Dr. Douglass the meed of praise, due for his accurate observation and clear description.* But, for my own part, I can conceive, that where (as in M'Grane's case) the foot and head, or shoulder, are propelled at the same time towards the mouth of the womb, the uterus might, however unusual such a process, by forcing down the extremity, while the other presenting part is resisted by the pubis, accomplish, *within its own cavity*, an evolution of the foetus. And that such an

* An Essay on the true Process of Spontaneous Evolution of the Foetus, by John C. Douglass, M. D.

occurrence might take place by the efforts of nature alone, I am strongly led to believe, from an instance in which this may be said to have actually happened, although it was certainly in some measure aided by the interference resorted to. I shall transcribe from my notes, made at the time, the exact manner in which expulsion of the child was effected on the occasion I allude to. The contrast between the two classes of cases is very striking.

Bridget Healy, æt. 30, was admitted into Hospital at 8 o'clock on the 1st September, 1839, in labour for the third time. She stated that she had completed her reckoning. On examination, the left hand of the foetus was found hanging out of the os uteri, which was dilated to one-third of its extent; waters discharged. On the occurrence of a pain or two the *right* shoulder was felt, resting on the pubis, while the arm of that side passed across the brim of the pelvis, the elbow being thus directed to the sacrum, and the forearm bent upon it. After a few more pains, and while Dr. Herdman was preparing to turn, it was perceived that the child had doubled on itself; the *right* foot was discovered to have descended into the vagina, with its toes pointing forwards; the right arm was not then within reach of the finger, but the left hand was still the lowest part, and protruded posteriorly; the os had dilated to two-thirds of its dimensions; the pains strong. The leg was drawn still further downwards by Dr. Herdman, who then paused to observe what could be done by the natural efforts. At 9 o'clock, the process having been continued by the action of the uterus, the breech reached the vulva, and gradually went round, until the sacrum looked forwards and to the right side, the left hand still continuing behind it, and the other leg being turned up on the body. The right arm was then brought down, but the head did not turn into the hollow of the sacrum, it still remained with the face to the pubis, the neck being twisted on itself, and was so expelled. The child was still-born. It was then found

that there was another child presenting naturally. The remainder of the case exhibited nothing unusual.

Of the progress of this delivery I was myself an eye-witness, and the notes I have now read were made on the instant, and received Dr. Herdman's approval. There cannot, therefore, be a doubt of their accuracy. Now I do not think I am going beyond the bounds of probability when I state, that if the slight assistance, which was rendered, had been withheld, the child might have been expelled in exactly the same way by the uterine efforts alone; and if so, Denman's explanation of spontaneous evolution is fully borne out. My own impression, however, is, that in *these* cases the foetus has existed from an early period doubled on itself in the womb; but of this supposition I have no proof.

M'Grane's history exhibits also an interesting illustration of recovery from one of the most fatal forms of puerperal fever, that in which the veins are inflamed. The attack commenced within twenty-four hours after delivery, with pain at the right side of the uterus, and suppression of the lochia; the fever attending it being, as is almost always the case, of a low type. So early as the third day, the formidable symptoms, indicating secondary inflammation of the joints, became manifest; besides the tenderness above Poupart's ligament, she had pain at the right trochanter, and winced when pressed on there. Dugés has enumerated as the order in which he has found the joints attacked by this disease, 1st, the hip; 2nd, the elbow; 3rd, the knee; 4th, the foot; 5th, the metacarpus; 6th, the shoulder. Ferguson has found the elbow and knee more frequently affected than the hip. I may remark, that from what I have seen I coincide with Dugés, that the hip is its most frequent seat; but I do not consider he is correct in placing the shoulder joint sixth in the catalogue; it appears to me to come second or third in the rate of frequency. It is curious they have both overlooked the sacro-iliac synchondrosis, which we often found disorganized.

The dependence of these affections on inflammation of the veins is very generally, and, I believe, with perfect correctness, entertained. Still instances occasionally present themselves in which their connexion cannot be detected. Thus Lee gives a case wherein, although there was severe febrile disturbance, with pain and swelling of the joints of the extremities after parturition, yet on the most careful examination after death, no morbid appearance whatever could be discovered in the uterine or abdominal veins.* I have myself noted a case in this house that exhibited a similar exemption (Ellen Conolly, admitted October 26, 1838); her labour was completed in three hours, but it afterwards became necessary to introduce the hand for the removal of the placenta, in consequence of an irregular and tight constriction of the lower third of the uterus, attended with violent pain in the hypogastric region, pallor of the surface, and pulselessness. As is so commonly seen, whenever it is requisite, during the prevalence of an epidemic, to pass the hand into the womb, in the evening symptoms of metritis set in, which were met by a general bleeding, the application of leeches, and the use of mercury. On the second day after delivery she had a violent rigor and diarrhœa, and on the third complained of pain in the right shoulder; the right hip and left synchondrosis soon became equally engaged, then the chest, and she died on the fifth day. On inspection, in the right shoulder was a quantity of gelatinous infiltration between the integuments and muscular structure, also in the Deltoid, which was softened, and, as it were, macerated; the capsular ligament was thickened and vascular; in the joint was a quantity of thin pus; the head of the bone had a pinkish blush, which existed in the cartilage itself; no ulceration; the tendon of the biceps and glenoid cavity unaffected. *Right hip joint healthy.* To this fact I shall draw more particular attention presently. In the

* London Med. Gazette, vol. iii. (December, 1828, to May, 1829), p. 665.

left synchondrosis deep and extensive vascularity, some viscid bloody fluid, and the cartilage easily separable from the bone. On the spleen and diaphragm a quantity of lymph was deposited; yet, notwithstanding these extensive morbid appearances, there was scarcely a trace of vascularity in the peritoneum; about two ounces of straw-coloured serum only in the lower part of its cavity, and no adhesion, and *in none of the vessels in the pelvis could be discovered any signs of inflammation or pus*. The uterus, however, was large, and covered with a thin coat of lymph, and on raising it some bands of adhesion to the sigmoid flexure of the colon were exposed.

But, although there was no evidence after death of uterine phlebitis having existed in these cases, there can be little doubt, I think, that M'Grane was affected with it, and that the disorganization of the hip joint subsequently impending was its consequence. On the fifth day, too, phlegmasia dolens of the thigh of the diseased side appeared, thus marking the nature of that complication, at least in one of its forms. Davis it was who first proved by dissection, that phlegmasia dolens depended on inflammation of the iliac and femoral veins,* but it was Lee who traced the inflammation from them into the uterine branches of the hypogastric veins.† In our patient, if a fatal termination had taken place, we should, in all probability, have been able to verify the same course of the disease by post mortem examination. As to the treatment adopted with her, the fever presented the usual typhoid character, rendering general bloodletting inadmissible; leeches, therefore, were applied in as great number as she could bear, while the mercurial treatment was pursued. In this instance, however, as in many others of puerperal disease, it was found impossible to bring the system under the in-

* Med. and Chirurg. Trans. vol. xii. 1823.

† Med. and Chirurg. Trans. vol. xv. p. 369. 1829.

fluence of that mineral ; instead of exhibiting its usual effects, and thus opposing itself to the inflammation prevailing at the time, it appeared to act rather as a poison, and, by creating irritation in the bowels, which in phlebitis are always tender, only helped to run down the powers of life ; it was therefore abandoned, and recourse had to morphia, and such stimulants as the depression demanded. The capability of mercury to control inflammation of the veins is now, I rather think, very generally discredited ; many, certainly, are the failures, when it is used as the chief remedy. “ In several cases of uterine phlebitis,” observes Lee, “ I have employed calomel to a great extent, and speedily brought the system under its influence, yet the progress of the symptoms was not arrested, and the patients died, as others had done, when mercury had not been exhibited.” I fear we may also agree with this author in his further remark, that as far as his observations extend, we are not at present in possession of any remedial means, which effectually control those varieties of inflammation of the deeper seated structures of the uterus.* In M’Grane’s case, however, was exemplified a line of practice, which I have seen successful in arresting the local disease, and saving the particular joint threatened. I allude to the free use of the actual cautery. I do not mean to aver, that the cautery has any power over the constitutional disorder, or can cure the inflammation of the veins ; but that it is in many instances capable of rescuing a joint from the destructive inflammation, which, as a consequence, hangs over it, I am very much inclined to believe. I have now witnessed five occasions, on which that result at least followed its employment. One of them was the case I lately detailed of arthritis without inflammation of the veins, and in which, it may be remembered, the hip joint, although attacked in the same way as the shoulder and synchondrosis,

* Cyclop. of Prac. Med. vol. ii. p. 263. Lond. 1833.

did not, like them, exhibit after death any of the results of inflammatory action; and this immunity I attribute to the actual cautery having during life been applied over it, and not over the other articulations. The history of cases in which it has been used, leads me to think, that its action consists very much in concentrating the inflammation in the structures around the joint, so that, instead of the sero-sanguineous fluid we commonly find infiltrated through them, it causes the formation of a more perfect form of abscess than we usually see in such individuals. It is a means well worth a trial, in such lamentable affections, particularly if there be an epidemic of a low and malignant nature prevailing at the time, and, if I mistake not, has been in them used by Doctor Every Kennedy alone, who, with his never-failing kindness, has permitted me to make use of the records, which I have now had the honour to lay before you.

There only remains, that I make a few remarks on the catastrophe, to which, after all her escapes, this poor woman at length fell a victim, and first as to the copious discharge of blood which attended it. Numerous observations attest the fact, that hæmorrhage, to a profuse amount, commonly results from lacerations of the vagina. Among other examples, I may record one which was related to me by Doctor Johnson. Some years ago he was called to remove the child from a woman, who had died from what he was told was a placenta presentation. He went, he says, prepared to carry off the preparation, but found that the hæmorrhage, which had proved fatal, had proceeded, not from the uterus, but the vagina. She was, in fact, a cook, who had been standing upon a chair which had a broken back; they both tumbled, and the sharp end of the upper limb of the chair struck her in the parts.* In M'Grane, however, in my opi-

* A nearly similar instance is recorded in the very first volume of the *Lancet*, p. 255.

nion, it was not the loss of blood alone which caused her death. When I first saw her, a few moments before her dissolution, her appearance induced me immediately to think so. The cold dew was on her pallid brow, but she did not exhibit the placid features of a person dying from mere hæmorrhage; on the contrary, her face betrayed that token of distress familiar to all who have witnessed such fatal lesions. And the cause of the painful expression, and the sudden collapse which occurred, I should consider to be, that the rupture had then extended, if not into, at least up to the peritoneum, separating it from the subjacent tissues, and causing an effusion of blood between them. And we know from experience in lacerations of the womb, that it is not necessary the serous membrane should be itself torn, to produce a fatal result. Nevermann mentions five instances in which the uterus was torn, and the peritoneum uninjured; and in all these, apparently slight cases, death ensued.* In nine of the thirty-four cases which happened during Dr. Collins' mastership of this institution, the peritoneal covering of the uterus did not give way; yet death followed equally speedily, as if the rent had extended into the cavity of the abdomen.†

As to the cause of the accident in M'Grane's case, I think there cannot be a doubt that the softened state of the vagina, which we detected at that part of its circumference, must have acted as a predisponent, and was the result, I should say, of the difficult labours which she had undergone. In this respect, at least, the case resembles those instances, wherein rupture of the uterus follows a sudden movement of the foetus, or is coincident with the very first labour pain. According to Cruveilhier, Duparcque, Murphy, and others, there has always existed in such individuals a previous de-

* F. Duparcque's vollständige Geschichte der Durchlöcherungen, Einrisse, und Zereissungen des Uterus, und der Vagina. Von J. F. W. Nevermann, M.D. Leipzig, 1838, p. 234.

† Practical Treatise on Midwifery, p. 306. London, 1835.

generation of its tissues. But there is this difference between them, that while, in the latter, the exciting, or actually productive cause of the laceration is easily comprehended, in the former, I think, it is by no means obvious. The vagina is not an organ containing a body, whose force from within may tear through its wall; nor is it such a hollow viscus as could, by its own muscular efforts, produce such a result. The violence, I apprehend, must have proceeded from without, and the difficulty is to determine from whence it came. It could not have been from the contractions of the womb, for that organ had not commenced its action; nor was there any pain complained of, until, it would appear, the injury was complete. It could not have been from mechanical attrition against the ileo-pectineal line, for that part of the brim was not sharper than ordinarily. No reason existed for even suspecting a criminal attempt upon her life. It occurred to me at the time that it might possibly have arisen during sexual intercourse, as in the case quoted by Davis from Diemberbroeck.* But with our patient the husband's declaration is distinctly opposed to that solution of the question; and, indeed, the size of the woman, and the height at which the laceration was situated, are, I should imagine, sufficient to confirm the truth of his assertion. No cause can he assign for the calamity; and for myself, I am totally at a loss for a conjecture, if it be not referrible to a dragging of the vagina, consequent on the gravid uterus falling to the opposite side, as she turned in her bed. To this, after all the consideration I have given the case, I am inclined to attribute the accident; and for my own part, I can conceive, that a sudden pull, produced in that way, might be sufficient for the purpose, when the tissues had already become disorganized.

* The Prin. and Prac. of Obstetric Medicine. By David D. Davis, M. D., vol. i. p. 128. Lond. 1836.

ART. XI.—*Propositions relating to Diseases of the Stomach.*

By JONATHAN OSBORNE, M. D., Queen's Professor of Materia Medica, &c., &c.

[Continued from Vol. XV., page 438].

BEFORE I proceed to the remainder of the propositions which I have to bring forward, on the subject of diseases of the stomach, the attention of the reader is requested to some topics connected with those which I have already published, and with respect to which I am enabled to afford some additional information; and first of

THE PERFORATING ULCER.

This is a form of disease peculiarly insidious, and apt to be overlooked, on account of the slightness of the symptoms which mark its progress, and, as a subject of pathology, is involved in considerable difficulty, from the singular and indeed unique appearance it presents. The edges of the fresh-formed ulcer have no resemblance to those of any other kind of ulcer, but the coats of the stomach are perforated as if by a cutting instrument of a circular form, leaving a smooth and perpendicular edge. The situation of those ulcers is always at or near the lesser curvature, and they are often not noticed, and their existence not suspected, till they have perforated the peritoneal coat, when death ensues within a few hours, in consequence of the escape of the contents of the stomach into the cavity of the peritoneum.

I have hesitated for a long time before I could determine whether this affection should be considered as idiopathic, and distinct from all others, or whether it should be placed with those of the gastric glands, or those of the mucous membrane. In most of the cases which came under my observation I had no opportunity of ascertaining the symptoms which preceded the perforation, the patients making little or no complaint, and not seeking medical advice till the fatal passage of the contents of the stomach into the peritoneal

cavity had taken place. I, however, have now concluded that they belong to the cases of sour stomach (affections of the gastric glands, see Part I.), because the symptoms of that state may exist longest, and in the highest degree, without attracting the patient's notice, and chiefly because the seat of the perforating ulcer is always towards the lesser curvature, which is not the seat of gastritis, but that of the affection of the gastric glands. I more lately have had the good fortune of learning the symptoms of some cases in their first stage, which have completely confirmed the correctness of this conclusion. The following is one.

Mary Power, aged 20, a servant, of a florid and healthy appearance ; made no complaint, and appeared to enjoy perfect health, with this exception, that when she was blamed, or in any other way thrown into a state of mental excitement, she used to be seized with a fit of severe pain in the stomach and vomiting, and the matter vomited was both sour and also bitter. Within the fortnight previous to her admission to Mercer's Hospital, the pain and vomiting increased, and came on without mental excitement. She was never known to have vomited blood.

On her reception into Mercer's Hospital she was in a state of collapse, and died in a few hours. On examination after death about half a pint of the contents of the stomach, of a bright green colour, were found to have effused into the surrounding parts, but the peritoneum was so universally adherent between the large and small intestines, that it was pent up and had not proceeded beyond the mesocolon.

In the stomach were two circular ulcers, with clean edges, as if made by a gouge, one at the anterior wall, near the lesser curvature, and nearer the pylorus than the œsophagus, which had opened through the peritoneum, and afforded a passage to the contents of the stomach ; the other a little larger and less regular, at the posterior wall below the lesser curvature, completely perforating the mucous and muscular

coats and exposing the peritoneum. There was a slight thickening in the portions adjacent to the ulcerations, but otherwise the stomach was healthy.

When, by the adhesion of the peritoneum to the surrounding parts, or by its thickening and acquisition of indurated structure, the rupture is prevented, then the remarkable circular ulcer may by degrees enlarge, lose its characteristic shape and edges, and gradually assume the appearance of cancerous ulceration. Of seventy-nine cases observed by Professor Rokitanski, of Vienna, in twenty the ulcer was situated on the posterior wall of the stomach; in fifteen, on the small curvature; in five, on the anterior wall; in sixteen, at a short distance from the pylorus; in six, on the duodenum; and in sixteen, in different parts, as at the anterior and posterior walls, at the same time. Their size varied from that of a sou to a five franc piece. In twelve cases there were two, in four there were three, and in one there were five ulcers at the same time. When there was a plurality of ulcers he found them most frequently situated one above the other at the posterior wall, and they were on both walls only four times, out of seventeen cases in which there were more than one. In the collection at Mercer's Hospital there is one as if done by a circular gouge on the posterior wall, with another on the anterior wall, in the place exactly corresponding to it.

It would be impossible to deny that there is considerable obscurity as to the production of those ulcers. According to my views it appears that a circular group of the acid secreting glands is irritated to secrete that fluid with such intensity as to dissolve the surface with which it first comes in contact, and that thus the mucous and muscular coats are suddenly destroyed, and the fluid soon reaches the peritoneum. This membrane is not only the last, but the slowest to disappear, and resists so long that inflammation of its external surface is set up. If sufficient time is granted for the

formation of plates of lymph, and the agglutination of the surrounding parts by adhesion, then the fatal catastrophe may not only be delayed, but no doubt is, in many cases, entirely averted.

We have seen that the symptoms belonging to the formation of those ulcers are distinct from those of any form of gastritis, and that the seat of disease is also different. On the other hand, this disease is distinguished from the ordinary cases of sour stomach and pyrosis, by the slight degree of sourness and pain, compared with the dreadful process which is rapidly going on, causing the destruction of the circular piece of the stomach with little or no signs of irritation at the edges or adjoining portions. In none of the cases of sudden bursting of the stomach which fell under my notice, was there vomiting of blood or of sanious matters, as are usual in other cases of ulceration. The symptoms appear to be sourness of the stomach as I have described (Part I.), but in a slight degree; then a soreness felt in one peculiar locality of the stomach, of which hereafter; and lastly, the fatal rupture and effusion of the contents of the stomach into the peritoneum, usually terminating life in about twelve hours.*

The formation of this disease is in many cases to be traced to grief, or anxiety. I have already referred to this in the case of Miss B., described (Part I.) Professor Rokitsanski states, that out of seventy-nine cases, forty-six occurred in females, but he evidently has included in his list, many cases not strictly belonging to this form of disease. The great majority of cases which I have seen, or of which I have obtained adequate information, occurred in females. Hence it would

* See an able paper by Dr. Williamson, on the distinguishing marks of the three kinds of perforations which may take place in the stomach, viz., the perforating ulcer above described; second, the corroded ulcer from corrosive poisons; and third, the perforation from posthumous digestion.—*Dublin Journal*, 1841.

appear, that there is something in the sex, or rather in the peculiar vexations and disappointments to which the sex is most liable, which tends to produce the disease. For example, in the instance of Miss B., she was suffering from anxiety as to a matrimonial engagement. Another of my cases occurred in a young unmarried female, far advanced in pregnancy, which she was endeavouring to conceal; and Mary Power, the subject of the case above related, was a destitute girl, unjustly suspected and reproached on account of supposed levity of conduct, as I ascertained by inquiry after her death.

Here is the place to introduce a mode of ascertaining, not only the existence of these and other ulcers of the stomach, but of determining the part of the stomach in which they are situate. This depends on the complete insensibility of the stomach to the sense of touch, which causes it, not only when healthy, but even when irritated or inflamed within certain limits, to make those states known by the symptoms produced in remote parts, rather than by pain in the organ itself. But when ulceration has taken place, then a new surface is formed, possessing the same sensibility of touch as ulcers in other places, and susceptible of a smarting pain, and a feeling of burning, whenever the ulcer is immersed in the acid fluids of the stomach. The diagnosis of the situation of the ulcer depends on the effect which the patient's position has in either producing or relieving this pain. When he lies so as to bring the fluids of the stomach in contact with it, then the pain is perceived, but when he lies so as to keep it above the fluid then he enjoys comparative ease; and in general in all such cases there is a great remission of pain, as long as the patient remains in the erect posture, arising from the great majority of those ulcers being either on or in the neighbourhood of the lesser curvature. The following cases, in which this mode of diagnosis was adopted, are here adduced to illustrate this point.

CASE I.—*Diagnosis ; Ulceration at the posterior Wall of the Stomach.*

Arabella B., aged 26, a children's maid, came under my care on the 11th of July. Symptoms: pain of stomach coming on about a quarter of an hour after eating, and relieved by vomiting; matter ejected generally sour and interspersed occasionally with black matter; appetite much impaired; thirst, especially when pain comes on; sub-emaciation; catamenia regular; experiences more annoyance after taking liquids than solids; has a sense of weight from every thing taken; bowels habitually confined; *always obtains ease from the pain by lying in the prone position*, and also when she falls into a perspiration. Sometimes she can eat without vomiting.

History.—During the last two years she has been affected with sourness of stomach and torpidity of the bowels. The dark coloured vomiting and anorexia came on within the last two months.

℞ Ext. Opii. gr. ii.
Nitrat. Argent. gr. ii.
Aquæ distill. ℥ i.

Sumat coch. min. in aquæ calid. poculo ter die. Enema Tereb. Vesicat. seq. ventric.

14th. The bowels did not act till five pints of warm water were injected by the tube. Pain of the stomach much relieved.

Cont. Mist.

16th. Pain and tenderness at the lower part of the abdomen; no return of vomiting; the uneasy sensation after eating has nearly vanished.

22nd. Feels much better; pain occurs after eating stira-bout, but not after egg, and is always obviated by the prone posture; eructations follow pain.

25th. Appetite has now returned; no pain after eating; some nausea at night.

Repetat. Enema. Cont. Mist.

5th August. Ceased to take medicine, being now nearly free from any subject of complaint.

On the 20th she was again placed under my care, having been within the last four days in a state of great suffering from pain, and tympanitic tension of the abdomen, obstinate confinement of the bowels, and vomiting of all medicines taken to relieve it. During the following three days, notwithstanding the employment of leeches, hip baths, calomel and opium enemata, and other remedies, it became evident that she was sinking, and she died on the evening of the 23rd.

Necroscopia.—On opening the abdomen, (which was swollen and tympanitic, especially to the right of the median line) the cœcum and ascending colon were found distended to a diameter of nearly six inches, and appeared to occupy the entire space, from the ensiform cartilage to behind and beneath the pubis. At the angle formed by the ascending and transverse arch of the colon there was a contraction; beyond this the intestine was healthy, but between it and the iliocœcal valve it was of a dark bluish colour, and of a much darker hue immediately above the constriction. The contents of this portion of the intestine were gas, and about a pint of dark brown fluid fæces. The peritoneum was highly injected.

The stomach was half full of a dark coloured fluid; it adhered to the pancreas at the part of *its posterior surface, where there was a round ulcer the size of a shilling*, one inch below the lesser, and two inches above the greater curvature, and rather towards the œsophageal end. The portion of the stomach immediately around the ulcer was much puckered.

The above case is remarkable, not only from the circumstance pointing out the seat of ulcer, but also from the relief obtained from treatment, the patient having died in consequence of the contraction and inflammation of the large intestine, which supervened to the former.

CASE II.—*Diagnosis: Ulceration towards the Pyloric End of the lesser Curvature.*

John Gannon, shoemaker, aged 30, admitted to Mercer's Hospital, April 17, 1844. Pain at the scrobiculus cordis, extending to the umbilicus; sour eructations about two hours after eating, which are generally followed by vomiting of a sour, clear fluid; *the pain is generally brought on, and when present always aggravated, by lying on the right side*; bowels mostly confined; appetite natural.

History.—About eighteen weeks ago had a diarrhœa, and at that time first suffered from sourness and vomiting. Six weeks ago, first vomited matter resembling coffee-grounds, and the same has happened twice since. Is reported to have fretted much of late.

He was ordered the drops mentioned in the first part of these propositions, also aperient pills on each alternate night, and a meat diet.

On a review of his state, on the 17th of May, it appeared that although he still complained of pain, yet that it was much diminished, and was not increased by lying on his right side; the vomiting had ceased altogether, and there were no sour eructations. Remedies to be continued, also a sinapism to the region of the stomach every evening.

On the 27th he complained of severe headach, his appetite now failed, and he had bitter vomiting. On the 29th, the symptoms of arachnitis set in (not necessary to be enumerated here) mercurial treatment was prescribed, but notwithstanding this and other means were resorted to, delirium, convulsions, and coma successively supervened, and he died on the 13th of June.

Necroscopia.—*Head.*—Nearly half a pint of fluid diffused on the upper surface, and in the ventricles of the brain. Substance of the brain softened at the posterior part of both ventricles.

Abdomen.—Liver enlarged ; intestines matted together with old adhesions.

Stomach.—*At the lesser curvature, near the pylorus, were superficial ulcerations, or patches deprived of mucous membrane, and also some patches in which the mucous membrane was entire, but with a whitish opaque structure interposed between it and the peritoneum.*

CASE III.—*Diagnosis : Ulceration towards the pyloric End of the lesser Curvature.*

Patrick Hayden, a Nailor, aged 46, admitted to Mercer's Hospital, 3rd April, 1844. Complains of sour vomiting, ptyalism, *pain in the region of the stomach much aggravated by lying on the right side ;* appetite impaired ; bowels confined.

About fifteen months ago, was attacked with "cramp" in the stomach, since which time ptyalism and vomiting have continued, with but little intermission. About six weeks ago, he vomited a dark coloured matter, stated to resemble coffee grounds.

Prescribed the lead and morphine mixture (see Part II.), and aperient pills.

9th April. Vomiting has been checked, but returned last night. Prescribed the pills of Nitrat. Argent. and Acet. Morph. (see Part II.) one to be taken three times daily, drinking after it a wine glass of lime water in a tumbler of warm water ; a sinapism to be applied to the gastric region every evening ; diet to consist of rice and eggs ; aperient pills as required.

12th. All the symptoms decidedly abated, with the exception of the pain aggravated by right decubitus, which is nearly the same as before ; a lime moxa was applied to the scrobiculus cordis. The treatment last ordered to be continued.

13th. The pain mentioned in last report is much less to-day.

15th. Can lie for nearly half an hour on the right side without pain; no return of vomiting.

18th. The vomiting and ptyalism have entirely ceased; the pain of the stomach is not at all felt, except when he lies for a considerable time on the right side, and then in a much slighter degree. His countenance was still indicative of scirrhus disease, but he felt so much improved that he was dismissed at his own request.

CASE IV.—*Diagnosis; Ulceration towards the pyloric End of the lesser Curvature.*

Mr. J. M., aged 22, placed under treatment 15th March, 1845. Is of a livid and emaciated appearance; complains of pain in his stomach coming on in bed at night, and occasionally at other times after eating; *relieved by lying on the left side*, also by vomiting, and in a lesser degree, by a gulping up of sour fluid which comes on at night; it interferes much with his sleep, especially when he feels an inclination to vomit, but cannot expel the contents of his stomach; on these occasions he sometimes strains violently and ejects a slimy fluid tinged with blood; has appetite, but is afraid to indulge it; thirst; tongue smooth towards the middle.

History.—The case commenced about two years ago with vomiting of clear fluid and pain; about a fortnight ago he vomited an adhesive matter, in colour resembling the grounds of porter.

Ordered the drops described (Part I.); meat diet; pills to regulate the bowels.

18th. Vomited this morning a dark brown slimy fluid, which on the application of heat was converted into grumous shreds; *states that when his stomach has been emptied he can lie for some time on his right side.*

℞ Nit. Argent. gr. iv. Acet. Morph. gr. i. Aquæ still. ℥ iv. St. coch. min. omni semihora. A lime moxa was now applied to the scrobiculus cordis.

25th. Since last report has only vomited once; thirst less; appetite can now be indulged; pain much diminished; fæces reported to be of a dark colour.

Omit. mist. Nit. Arg. Resume the drops, which are to be taken in lime water.

April 4th. Continues to improve. To go to the country.

CASE V.—*Diagnosis: Ulceration (perforating)? towards the œsophageal End of the lesser Curvature.*

Miss F., aged 22, of full and healthy appearance, complains of pain in the stomach, increased after eating, and *constantly relieved by lying on the right side.* Tongue foul, and marked with impressions of the teeth; sour fluid occasionally rejected; headach; appetite impaired; bowels regular; catamenia regular.

The commencement of her complaint dates from nearly four years ago. Last November she had a violent attack, and was treated with mercury, which was attended with temporary alleviation.

℞ Nit. Argenti gr. iv. Acet. Morph. gr. i. Ext. Gent. gr. i. ft. pil. xii. Sumat i. ter in die, superbibendo aquæ calidæ poculo amplissimo et deambulando. A sinapism to the epigastrium every evening.

6th. Pain is rather increased; the pills were omitted, and the drops (see Part I.) directed in their stead.

14th. The pain has been, since last report, steadily diminishing; the other symptoms all disappearing; a lime moxa was applied to the scrobiculus cordis. Cont. cæt.

20th. Now the pain is no longer felt, even when she lies on the left side. She went to the country, and by a letter received about a month afterwards, it appeared that the symptoms had not reappeared.

In the above cases the existence of ulceration was inferred, not only from the correspondence of the symptoms with those of cases in which that fact was proved by dissection, but more especially by the smarting pain felt *within the stomach*, when the patient assumed a certain posture, so as to

bring the contents of the stomach into contact with a certain part, and by this posture not producing pain when the stomach was empty. In all those cases in which the pain was provoked by right decubitus, there was the most decided vomiting, but in those wherein pain was caused by left decubitus, there was not so much vomiting as anorexia. Now those two symptoms having been already proved (Part II.) to be more peculiarly connected with those two ends of the stomach respectively, they add a considerable weight to the value of the inference now drawn.

Professor Rokitanski states that there is evidence of a cure of those perforations taking place, in the fact that circular cicatrices are frequently seen on the internal surface of the stomach, in persons who had previously suffered from the symptoms which usually accompany the appearance of the disease. In the museum at Mercer's Hospital, there is a preparation of a stomach, in which is an exact circular perforation, through which the fatal effusion into the cavity of the peritoneum took place, and in another place, also near the lesser curvature, is a circular cicatrix, perfectly resembling it in size and shape, which had evidently been an ulcer of the same kind, but had been healed. If any reliance is to be placed on the evidence of symptoms, there can be no doubt of those ulcers being not only alleviated but healed. Of this I have abundant illustrations, but it is unnecessary to multiply cases, inasmuch as they are sufficiently represented by those already recorded. Of the treatment enough has already been said (Part I.) The metallic astringents, when ulceration of any kind has taken place, require to be more cautiously employed, and the doses of them must, in general, be smaller than in cases where the mucous membrane is as yet entire, otherwise an increase of pain and irritation is experienced. The effect of small doses of opium (as in the drops or in the morphine mixture, Part I.) is admirable, and

as numerous cases testify, far superior to hydrocyanic acid, belladonna, or any other narcotics which I have tried.*

The application of the lime moxa has been attended with the effects which I expected from what I had seen of it in other cases, and especially in a case of ulcer of the sigmoid flexure, of two years' standing, in which, after it was applied over the part, the sanious and purulent discharges and the local pain almost immediately and completely ceased. Since I commenced writing the present communication, a remarkable fact has come to my knowledge, of which I was not previously aware. A young woman, named Brady, had often been in Sir Patrick Dun's Hospital, where she was an object of interest, having for three or four years laboured under a constant vomiting of every thing that she swallowed, except wine, or spirits and water. Her emaciation was extreme, and it was difficult to understand how life could be so long sustained. The matter vomited was occasionally sanious, and every remedy tried by myself and others proved fruitless, till at her entrance into my clinic, above a year ago, I applied a lime moxa to the scrobiculus cordis a few days before my attendance ceased. I then lost sight of her case, but having lately had occasion to apply to me for another complaint, she informs me that from that time to the present, she has never vomited, and although she often requires to be cupped for a pain in her chest, and has amenorrhœa, she assures me that she has a good appetite, that she freely indulges it, and has never suffered any inconvenience whatever from her stomach, since the time of the application of the lime. The members of the clinical class, not now in Dublin, who may

* The peculiar action of the drops on the gastric glands, has been well illustrated in a case of sour vomiting at night, of three years' standing, lately in Mercer's Hospital. Although containing no alkali they removed the sourness, but the vomiting of mucus still continued unabated till combated by the means already indicated (Part II.)

peruse these pages, will, no doubt, be as much surprised as myself at this decided effect of the remedy. If asked what advantage I ascribe to the lime moxa above other moxas, I reply, first, the gradual manner in which the heat is increased; secondly, the great heat produced, causing not only destruction of the skin, but an action on the vessels at a considerable depth under the part; in a manner quite different from ordinary burns, as seen by the original eschar not healing in the usual way, but becoming the centre of an ulceration extending (if properly performed) to three times the original diameter, which in due time heals by granulations; and thirdly, the convenience and safety of its application, rendering this heroic remedy one of easy application, even with the most difficult and refractory subjects.

The other parts of the treatment, and especially that consisting in diet, and the management of the bowels, have already been treated of (Part I.)

The circumstance connected with the perforating ulcer, which distinguishes it from all the diseases included under the general term dyspepsia, and which invests it with a fearful interest, is its being a cause of sudden death, in consequence of its affording a passage for the contents of the stomach into the cavity of the peritoneum. The patient, like Damocles at the feast, sits with the sword suspended over his head, and in the full enjoyment of life has no suspicion of the slight tenure by which it is held.

“ Fallimur et cœci mortem procul esse putamus
Illa tamen medio corpore clausa latet.”

When this dreadful event has taken place, it is known by the followingsymptoms, viz. : first, a sudden seizure of violent pain, with a sensation (such as never felt before) shooting through the epigastrium and abdomen; secondly, all efforts at vomiting, whether from the action of emetics or otherwise, are unaccompanied by the rejection of the contents of the stomach by the mouth; thirdly, rapidity and pungency of the

pulse, soon passing into a state of extreme weakness and irregularity; fourthly, tympanitic distention and tenderness of the abdomen; and fifthly, constant desire to pass urine, continuing although the bladder has been repeatedly emptied. The average duration of life, under these circumstances, is about twelve hours, but the cold perspiration and sinking of the features announcing the approach of death, generally commence at about the eighth hour.

In some instances life is protracted, and the symptoms may be even somewhat mitigated, when, first, the contents of the stomach happen to be small in quantity; or secondly, when, in consequence of adhesions previously formed in the parts around the stomach, the effusion has been prevented from extending through any considerable extent of the peritoneal cavity; or thirdly, when the contents of the stomach possess a certain firmness of consistence, which presents an obstacle to their expulsion.* The constant and urgent desire of emptying the bladder is, according to my observations, a symptom always present, except under the three modifications now mentioned, and from its absence in these it would appear, that it is caused by the sudden presence of the effused fluids of the stomach in the pelvis around the bladder, communicating to that organ the peculiar sensation belonging to the presence of fluid within its cavity.

When the effusion has taken place all hope of recovery, by the aid of medicine, is at an end, and if any hope can be

* In the case of a woman described by Mr. Tagert at the Surgical Society (Medical Press, April, 1839), the stomach was ruptured, she having been run over by a car, shortly after having eaten a hearty dinner of herring and potatoes. Although there was an aperture in the anterior wall of the stomach capable of admitting a finger with ease, and although there had been frequent vomiting during the twelve hours that she survived after the accident, yet the stomach was found after death to have retained a large portion of her dinner, and there appeared in the cavity of the peritoneum only the barley water which she had drank, and two small pieces of potato.

indulged, it is only that by the alleviation of the violence of the symptoms, the heart may recover the shock sufficiently, to persevere in the performance of its functions to the longest period of which the vital forces are capable. In particular, we must beware of administering by the mouth stimulating medicines, which, passing into the peritoneum, produce a dreadful increase of torment. This happened in the case of Miss B., in whom the mustard emetic and turpentine draught, found in the peritoneum, must have greatly aggravated her sufferings. At this crisis little remains for us but to administer opiates, to apply fomentations, and when the heart's action begins to fail, to endeavour to protract it to the utmost by means of wine and other cordials, administered in the form of enema.

ART. XII.—*On the Treatment of a peculiar Form of Disease of the Prostate Gland.* By W. COLLES, ESQ., Fellow of the Royal College of Surgeons, and Surgeon to Steevens's Hospital.

DEAR SIR,—I have collected and arranged the following paper on a form of disease of the prostate gland, from some notes and cases chiefly taken by my late father. I have selected this subject, as it offers a novel practice for one form of disease of this organ. Hoping it will meet with the favourable consideration of, and adoption by the Profession, and be the means of alleviating the sufferings of those labouring under this most painful affection,

I remain, your's truly,

W. COLLES.

THE prostate gland is subject to many different affections which have been generally considered as the same disease, and treated as such, without any prospect of permanent, and little of temporary relief from the symptoms. I would par-

ticularly direct attention to one form of disease, and hope to offer a plan of treatment which will relieve the most urgent symptoms, and this relief will be more or less permanent, and the patient will pass his life in comparative ease, in a disease formerly considered incurable.

I shall not here offer any remarks on the acute abscess of the prostate gland occurring in early life, as the nature and treatment of this affection are to be met with in every treatise on urinary disease. Nor shall I speak of the cancerous or malignant degenerations of this gland, the successful treatment of which we have yet to learn, and shall confine my observations to another form of the disease, occurring in an advanced period of life.

The chronic enlargement of this gland has been accurately described by many authors, so far as relates to the changes in shape and size of parts or the entire of this gland. But I think they have overlooked another very material point in this class of disease, occurring at an advanced period of life, I mean with respect to the degree of firmness and consistence.

In the majority of cases the texture of the enlarged gland is very solid and firm, smooth on the surface, that is, devoid of knobs or projections. For this description of case I have not any remedial treatment to suggest. But there is a description of enlarged prostate in which surgery can render essential benefit to the sufferer, and that by a very simple operation. When we find a patient in advanced life, complaining of unusual frequency of micturition, with more than ordinary straining, his urine depositing a good deal of mucopurulent sediment, and possibly a mucopurulent discharge from the urethra, we should make a very careful examination of the state of the prostate. If, under these circumstances, we introduce the finger into the rectum, and find the gland enlarged in either lobe, and upon pressing on one particular

spot we feel the point of the finger sink, as if into a cavity ; and particularly if we find this pressure to cause the discharge, *per urethram*, of a quantity of this purulent fluid, to the amount, varying from a few drops to a teaspoonful ; here we may hope to render an essential service. The operation to which I allude, is simply that of striking a lancet into this hollow, soft spot, which will generally be found to contain some matter. Now as such an operation cannot be conveniently or securely performed by the common lancet, I have employed the pharyngotome, having previously adjusted the instrument so as to allow the lancet to project only to a length, varying from one-eighth to one-half an inch, according to the apparent thickness of this soft part, our object being to open into this cavity.

The operation will be found to cause very slight pain indeed, and that confined to the region of the wound ; not even extending (as we might have anticipated) to the glans penis. So trifling, and so momentary, is the pain, that I have, at different times, performed the operation, and the patient merely imagined I had pressed a little more rudely on the gland. We are guided to the spot where the puncture is to be made, by holding the point of the fore-finger of the left hand gently pressed on the soft part, and introducing the instrument on this as on a director.

In some of these operations I have had incontestible proof that some pus had been contained in the cavity, for I have found it on the blade, and in the sheath of the instrument, yet in no instance have I been able to discover, afterwards, any trace of matter discharged by stool, so small has been the collection of this fluid ; in some of the patients a few drops of blood have passed afterwards through the urethra. In one or two, some urine has passed for a time by the rectum ; the quantity, however, was, in general, very inconsiderable, but often sufficient, by its presence in, and ir-

ritation of, the rectum, to cause the patient to go to stool, though no fæces were in the rectum.

This occasional watery stool was at once the only proof and inconvenience attending on such cases. This escape of urine, however, gradually ceases in the course of a week or two, never to return.

I must acknowledge, however, that in one case which will be hereafter mentioned, the flow of urine into the rectum was much more troublesome, and to a greater amount, so that at one time I was in dread lest the communication should become permanent, and a fistula formed. Yet, even in this case, an old sickly poor man, according to the last report, there has been no discharge of urine from the rectum for some time, it having gradually ceased after his leaving the hospital.

In one instance only have I seen a hæmorrhage follow this operation, and in that it was easily commanded by laying on the orifice a small compress of lint, and retaining it, for some minutes, firmly pressed against it by the forefinger introduced into the rectum.

This operation I have employed in some few cases of gleet, when I had satisfied myself that there was not any stricture in the urethra, and where I felt the cavity in one lobe of the prostate, and pressure on this caused a flow of precisely the same kind of fluid as that which constituted the gleet. I consider the cases most favourable for this operation, to be those in which the patient informs us that the discharge of the gleet takes place at intervals, and that he is made aware of the moment of its escape by some peculiar sensation which he feels at the moment. As yet my success in this mode of treating obstinate gleet has been uncertain, having failed to effect any change in cases which I thought very favourable for the operation, while in those which appeared less favourable my success has been complete.

I have employed this operation in cases of enlarged prostate gland, where nothing like a cavity was to be felt, and where the enlargement was free from knobs or excrescences, but I regret to say that hitherto it has been quite unavailing to afford relief; its highest praise, in this form of disease, is, that it has proved quite innocent.

The first case in which I performed this operation, was the following :

CASE I.—Rev. T. Q. In August, 1824, I was called to visit him, and learned that for many weeks back he had been afflicted with symptoms of urinary irritation ; these had increased so much during a long journey, that on his return home, three weeks since, he was obliged to keep his bed. For the last week he laboured under retention of urine. The flexible catheter was left in the bladder for two days, and as long as it was kept in, he was obliged to let off the urine every ten minutes ; it was then removed, and then it was necessary to draw off the urine only twice a day. For the last two days he has been able to evacuate the bladder unassisted.

He suffers a good deal of pain when passing off the last drops of urine, and for some minutes after. The urine is very alkalescent, sometimes small clots of coagulated blood or fibrine, coloured red, were mixed with it.

The prostate gland is much enlarged, particularly its left lobe. In the right lobe, which is less enlarged, I felt a soft spot, which could be covered by the point of the finger ; pressure here gives pain, and causes a purulent or muco-purulent discharge to flow from the urethra.

August 31st. Into this soft spot in the right lobe, I pushed the concealed lancet of a pharyngotome, the canula came out filled with pus ; yet shortly after, having procured a stool by aid of an enema, I could not discover any matter. He passed a quiet night, but next day did not feel any very decided relief from the operation.

Sept. 23rd. No discharge of purulent matter by the rectum has been observed. He now retains urine for four, sometimes six hours, it is still too alkaline, but is free from blood; mucus in small quantity.

Right lobe of prostate reduced nearly to the natural size; left not reduced, but is much more soft; pulse 74, regular; tongue is still, as it had been through the illness, of a scarlet red colour.

Oct. 1st. Dr. Gason, under whose care he remained, this day informed me that he continued to improve daily since the operation, and that he is now perfectly free from all urinary symptoms.

May, 1840. He is still living, and has not suffered from urinary disease, more than is usual with men at his very advanced period of life.

In two or three attacks of illness since the operation, I have visited Mr. Q., and on each occasion I inquired most particularly as to the state of the urinary organs. From Mr. Q.'s own report, as well as that of his attendants, I am happy to learn, that the old gentleman suffers less of urinary distress than could be expected from his time of life.

CASE II.—The next most striking case was that of Dr. O., who had been affected more or less with urinary disease for eight or ten years. At the commencement, his symptoms were such as to excite suspicion of a stricture of the urethra, but this was put to rest by an examination with the bougie. He had been subject from the commencement, occasionally, though rarely, to a paroxysm of urinary fever, the rigor being the predominant symptom; still his constitution did not appear to suffer till within the last two or three years, when the febrile paroxysms became more frequent, the discharge of urine painful, at short intervals, and attended with straining; the urine depositing generally a ropy, tenacious mucus, with occasionally a small portion of pus, streaked with blood; his general health began to suffer.

For the last six or eight months he was greatly distressed by walking or standing inducing an uneasiness in the rectum, though no disease could be discovered in the gut, by the most careful examination. These attacks were only occasional, the patient being sometimes quite free from them for two or three days together.

In January, 1833, after two or three days' severe suffering, an abscess was opened in the perinæum, through which urine and pus would flow on pressing the left side of the raphe, close under the angle of the pubis.

February 22nd. He is emaciated to the last degree ; very weak ; appetite gone ; in constant state of fever for the last three days ; has been seized with a most severe and incessant urinary tenesmus, the entire of the abdominal muscles being, he says, thrown into most violent action ; yet with all this straining, he does not get off more than half a teaspoonful of urine, often not a drop ; bladder not distended. On examining the prostate, its left lobe has in its upper end a spot which feels soft ; the finger sinks into it, as if into a small collection of matter.

In consultation with Dr. O.'s cousin I proposed to make a puncture in the left lobe of the prostate. I candidly confessed to him, I had only the successful result of one operation of this kind to support the proposal.

A ready assent was given to the operation, as it was evident that if not relieved speedily, he must perish in a few days, and that the condition of the patient could not be made worse by a puncture of the prostate, and that all the ordinary plans of treating urinary disease had failed to afford any relief.

I therefore proceeded to puncture the soft spot in the left lobe, making the concealed lancet project about a quarter of an inch. On withdrawing the instrument, I saw some purulent fluid, of a good quality, was brought out on the

blade. The pain caused by the operation was slight and momentary.

Feb. 23rd. No pus or coagulated blood could be discovered in the first stool after the operation, though carefully looked for. Says, that since the operation he "has been in heaven," being quite free from pain in passing urine, which he does only every third hour, and of good quality, but still in a very small stream. From this date he continued in the enjoyment of good health, and there is no further report of his case till April, 1836, when the prostate was examined, the right lobe felt as if containing a fluid; the left is also large and uniformly hard.

October, 1838. He had some urinary irritations, attended with a sensation in the rectum, which obliges him to use pressure, by sitting on the corner of the table while passing urine. Pressure was made on the prostate, the finger sunk into the right lobe, whereby nearly a tea-spoonful of thick matter was pressed out which gave him great relief.

Nov., 1838. He has had a return of the urinary irritation, attended with the paroxysm of fever, and severe rigor; loss of flesh; calls to pass water every two hours; in fact he was nearly in the same state as in 1833. We, therefore, agreed to resort to the operation which had benefited him so much before. I left the lancet three-eighths of an inch projecting, and on withdrawing it could not perceive any matter on it.

Nov. 7. He has already experienced great relief; calls to pass water much less frequent; fever quite gone.

A few days after he says that for twelve months past he has not enjoyed so much comfort in his urinary system.

1839. Had two abscesses in perineo opened.

Sept. 1841. Calls more frequent; urine comes off still in drops or small stream, and with jerks; the finger in ano felt a cavity of considerable size in the left lobe; by long continued pressure on the part, I squeezed out a quantity of purulent

fluid by the urethra, and rendered the cavity quite flaccid ; from this he experienced great benefit.

In 1843, a hard tumour appeared on pubis on right side, and a considerable hardness extended along the perinæum ; the tumour on pubis was opened, and gave exit to a small quantity of pus ; urine passed through it occasionally ever after. He continued thus, in rather a favourable state, till 1845, when the copious mucous sediment returned ; he calls to pass water more frequent ; he was also attacked with a severe cough, attended with copious expectoration and derangement of his bowels ; his strength failing him he deferred having his prostate examined, as he said he was too weak, and that he had not had a rigor, as in former times, but I believe his chief objection was, that as he had lost his old friend and surgeon, he was afraid to allow any other finger near him.

In March, 1845, all his symptoms became aggravated ; he passed a quantity of blood from the bowels, this was followed by uncontrollable vomiting and purging ; he was seized with constant hiccup, and died exhausted.

Post mortem examination, made with the assistance of my friend Mr. Hill. As our time was limited, we were obliged to confine our attention to the state of the urinary organs.

On enlarging the orifice on the pubis, we opened an abscess capable of containing a walnut ; it was of dark brown colour, and an opening in the bottom led to a sinus along the perinæum till it came near the bulb where it turned inwards.

We next endeavoured to remove the bladder, in which we found great difficulty ; it was bound down by very strong and firm adhesions, which we were obliged to tear through, so that on removing the parts, we could not find the continuation of the sinus in the perinæum.

On opening the bladder we found it very thick ; at the upper end was a large pouch with very thin walls, and two or three smaller ones in other parts.

There was only a very small portion of prostate gland left on the right side and anteriorly ; the place of the remainder was occupied by an abscess engaging both lobes, and going in front on the left side, so that, except for this portion of about one-eighth of an inch, the urethra would have been entirely surrounded by an abscess ; this cavity communicated with the urethra, by the natural opening of the left lobe, very much enlarged ; there were two calculi the size of snipe shot in the abscess ; ureters very much enlarged ; kidneys quite detached from their capsules, but in other respects apparently healthy.

On opening the rectum the edge was studded with a cluster of veins ; about two inches up the gut was a small white cicatrix ; on the left lobe of the abscess of prostate, the partition was very thin ; the folds of the rectum were very strongly marked.

CASE III.—James Reynolds, a poor sickly old man, æt. 72, was admitted into Steevens's Hospital, Nov. 20, 1838. For the last six years has been liable to a partial retention of urine, yet by forcing, the water would come off in a very small stream. At other times the stream was good ; latterly the retention has been more perfect, requiring the catheter, and occurs more frequently, having been attacked four times during the last six weeks.

He has been also subject to attacks of sudden and severe pains over the sacrum, extending to the hypogastrium, attended with constipation of the bowels, but no urinary distress ; a blister in the sacrum has always relieved it. He never had gonorrhœa.

He was admitted with retention of urine, which was relieved by the catheter, but afterwards the calls to pass water

were very frequent and irresistible, attended with great pain ; was disturbed eight times last night.

The finger, introduced per anum, felt a spot in the prostate, soft and projecting, by pressing on which, a few drops of milky fluid came from the urethra.

24th. This spot was punctured by the pharyngotome, the operation was not followed by any pain, nor was any matter observed on the instrument.

During the day he passed blood, both with the urine and with hardened fæces ; had retention of urine during the night relieved by the catheter ; urine quite clear.

27th. At stool several times ; each call attended with great straining ; nothing came but a little pus, causing great scalding at the anus ; had a rigor ; calls to pass water frequent ; rather stationary till

December 4th. Goes to stool four or five times daily ; passes a few hardened lumps of fæces, with a brown, thick fluid.

10th. Pressure on prostate causes about a spoonful of pus to flow from the urethra ; the quantity of brown fluid per anum increased ; urine diminished.

12th. Passed a stool of some pus, with brown urine and fæces. Gum elastic catheter introduced into the bladder, but as it caused great pain and constant micturition, it was removed ; he soon after went to the country.

April 18th, 1839. He passes urine twice in the night in a good stream, except after drinking ; no urine escapes at any time from the rectum ; his general health is good.

July, 1840. No pain on passing urine, or a charge per urethram ; no urine by the rectum ; general health good.

I have selected these three cases of this operation from a total record of twelve patients who underwent the operation with various success. The two first were the most favourable in the symptoms and the results, and the last

was attended with more alarming symptoms than occurred in any other, and indeed except this, and one in which some hæmorrhage occurred, but which was easily controlled, were the only cases which were attended with any bad or alarm-symptoms.

In the first case, in which the patient was a very old gentleman, we see that the ordinary treatment afforded no relief, even the catheter rather added to his sufferings, and if nothing further had been done, death must soon have terminated his sufferings. Here we find a gradual, though rapid, improvement in the symptoms, and this improvement was permanent; he had no return of any urinary irritation, though he lived seventeen years after, and died at a very advanced age.

In the second case the symptoms were still more severe, the patient was still more exhausted by long suffering, and here we find the relief afforded by the operation to be great and sudden, and still to continue for several years, and on the return of the former bad symptoms, a repetition of the operation was followed by the same happy result, as quickly and as perfectly as before.

Another circumstance worthy of remark is, that the abscess in perineo seemed to have some communication with that in the prostate, yet the opening of the former did not give any decided relief to the urinary symptoms; it was not till the prostatic abscess itself was directly opened that the great relief ensued.

In the third case the operation was followed by symptoms sufficiently alarming, as we had to fear that a fistulous communication had been established between the bladder and rectum, through the prostate, and that it would continue during the remainder of his life. Yet even here we find, after a time, this had perfectly closed, and his health to have been much improved, and that he was eventually greatly benefited by the operation, and indeed this event might have

been expected, when we recollect the number of cases in which the surgeon intentionally forms a communication between the rectum and bladder, either to relieve an over distended bladder, or to remove a calculus from that organ. Yet we find the great majority of such cases related have closed perfectly. I should think it is a general rule, that these direct communications close much more readily than where there is only a tortuous passage for the urine or matter to make its way through.

It might be a question whether this operation would not be justifiable in the case of a fistula in perineo, arising, as I believe they sometimes do, from this disease of the prostate, and which had resisted the ordinary methods of cure.

It appears very difficult to give a theory of the operation, and the manner in which it affords such considerable relief in these cases.

I cannot think it is explained on the same grounds that the opening of a simple abscess in other parts affords relief, for in no case do we find any subsequent flow of matter through the opening, though pus may have been perceived on the lancet, and even filling its sheath, which is a sufficient evidence of its having penetrated the cavity. Yet we cannot perceive any vestige of pus even on the next motion, or on any subsequent one; in fact, the incision seems to have healed up quickly, and even sometimes to have required a repetition of the operation.

Another explanation that offers itself is, that the incision relieves the tension of the membrane or fascia investing the gland, and allows the free expansion of the parts beneath, as we find in other parts suffering under inflammation, and bound down by a fascia, that a free division of this membrane affords the greatest relief, and puts a stop to the progress of the disease, both local and constitutional; still this explanation is not quite satisfactory, for we find the spot soft and yielding, and it is merely into this point we make

our incision. Yet, in whatever way we may attempt to account for it, it is not of so much consequence. We have the facts before us, which are, I think, ground for encouragement in further prosecuting our inquiries into this plan of treatment, and adopting it in cases most favourable, where other plans of treatment have failed to give relief, and the symptoms are such, as to require some decided line of practice to save the patient; and that we may indulge a reasonable expectation of its affording the patient a very great alleviation from his sufferings; and that, as far as our experience goes, it is not followed by any serious injury, and that it may be repeated more than once when the symptoms demand it, and always with benefit.

ART. XIII.—*Cases in Hospital Practice.* By JOHN HAMILTON, M. R. I. A., Surgeon to the Richmond Hospital.

PERIOSTITIS in the orbit is a disease of rather rare occurrence, and unless the symptoms are very well marked, one likely to be mistaken by a surgeon not previously conversant with it. Indeed, some years since I published an observation in this Journal, where, not only by myself, but by several surgeons of talent and experience, the real nature of the case was overlooked for several weeks, during which time the patient suffered great pain along the eyebrow, forehead, and side of the head, the eye was protruded, and the vision temporarily extinguished, and it was only while on one occasion carefully examining the orbit, I pressed upwards instead of forwards (as I had always previously done), that the extreme tenderness, caused by the pressure on the orbital plate of the frontal bone, led me at recognize the disease, which then speedily yielded to treatment. Since that time, 1836, I have only met with four instances of this affection; two of

these in the last year at the Richmond Hospital. The first was the following.

PERIOSTITIS OF THE LEFT ORBIT, WITH PARALYSIS OF THE LEFT EYELID, AND OF THE RIGHT ARM AND LEG.

Mary Williams, æt. 27, a thin, delicate-looking woman, admitted into No. 13 ward, September 11th, 1844. She has complete paralysis of the left eyelid, with pain in the forehead above the left eyebrow, which extends occasionally over the whole head; on a careful examination under the edge of the orbit, a slight swelling of the floor of the orbit can be discovered towards the inner side, and rather deeply situated; it is very tender on pressure, exhibiting the true shrinking tenderness of periostitis. She complains of weakness of the right arm and leg, which last impedes her walking; also some pain in the right shoulder. There is a depressed cicatrix over the right side of the forehead, where she says a swelling formed, and white matter was let out; no other symptom.

Five years ago had venereal ulcers, followed by eruption, pains in the bones, and iritis. She has suffered some time from the pain in the forehead and ptosis, without much minding them; but when the arm and leg began to get powerless, she became alarmed.

There could be little doubt but that the inflammation of the periosteum of the orbital plate of the frontal bone, was beginning to affect the membranes covering the corresponding portion of the bone within the cranial cavity, hence the paralysis of the arm and leg of the opposite side; it was possible that the ptosis might arise from the local effects of the disease on the palpebral muscle, or on the branch of the third pair of nerves which supplies it. The necessity of prompt treatment was clear, and although she had taken a good deal of mercury at different times, I did not feel justified in trying a less certain remedy, but put her on the following pills.

R Pil. Hydrarg. 3 ss.

Iodinii gr. iiss.

In pil. x. sumat i. ter in die.

A blister to be applied on the left side of the forehead above the eyebrow.

On the 16th she had taken all the pills, felt better, and could raise the eyelid a little ; tenderness under the edge of the orbit less, and no pain.

Rep. pillulæ.

23rd. A few days since, her mouth having become slightly sore, the pills were omitted, and she was put on a pint of the compound infusion of sarsaparilla, with 15 grs. of the hydriodate of potash, in the day. She is much better ; can half raise the eyelid ; has regained the power of the arm and leg ; suffers no pain in the head, and feels no tenderness from pressure over the affected part of the roof of the orbit.

Rep. Med.

25th. When the affected eyelid is raised, the eyes are seen to be on a different level, the left being depressed and rather more prominent than the other. She sees dark things before the eye, and also sees double, one object appearing *above* another.

October 5th. Left hospital at her own request, well in every respect, except that she is not able to raise the left eyelid completely. A week after she returned, in consequence of feeling a deadness and loss of power of the other (the left) hand and arm, with a tendency to stagger in walking, and some headach. I ordered her $\frac{1}{12}$ of a grain of the oxy-muriate of mercury, in a drachm of the tincture of bark, three times a day, and at the end of ten days she was quite well of these symptoms ; the ptosis was less, for though the lid hung down she had the power of nearly quite raising it ; the eye less prominent, but still on a plane anterior to the other. In this state she left hospital of her own accord.

Had this woman remained longer in the hospital, according to my wish, I should have kept her under the influence of small doses of the oxymuriate of mercury for at least three weeks longer, till all thickening of the orbital periosteum and tumour had disappeared. Although hydriodate of potash is a very valuable remedy in periostitis, I have sometimes failed with it, even administered in large doses and perseveringly, and I have afterwards succeeded completely with the oxymuriate in small doses, which acts at the same time most beneficially on the general health, generally causing the patients to throw up flesh. In this case the spread of the disease within the cranium was sufficiently evidenced by the paralytic condition of the leg and arm. In the next, which occurred in private practice, the results were even more serious.

PERIOSTITIS OF THE ORBITAL PLATE OF FRONTAL BONE ;
CARIES OF THE BONE ; EXTENSION OF THE DISEASE TO
THE BRAIN ; AND DEATH.

Mrs. B., ætat. about 30, January 4th, 1838, sent for me to see her eye. I found her with a shade over the left eye ; when this was removed, there appeared considerable tumefaction of both upper and lower lids, particularly of the upper, which so completely overhung the eye, that scarcely any of it could be seen. The swelling was of a pale red colour, and œdematous looking. She was unable to move the lid, and it could only be raised by another person to a slight extent, in consequence of the great swelling ; the little of the eye that could be seen did not appear inflamed, except to a trifling degree, but it was obviously pushed downwards and outwards ; she had scarcely any sight with the eye, all objects appearing black. Pressure on the orbital ridge and on the forehead above it, for some distance, gave much pain ; there was also excessive tenderness under the orbital ridge, within the orbit, on the orbital plate of the frontal bone, and a feeling as if the usual space above the eyelid was filled up

with a tumour. The œdematous swelling extended a little down the cheek, and across the nose to the right eyelids.

About three years before she had contracted syphilis from her husband, and when I saw her, eight or nine months after that period, she had a chronic phagedenic ulcer on the vulva, which had resisted a great variety of treatment; mercury always made it spread; fumigation, extract of hyosciamus, blackwash, &c., only seemed to keep it in check. I succeeded in healing it by giving her hydriodate of potash in large doses. Since then, at different periods, she had had periostitis over the tibiæ, the fingers and metacarpal bones, which yielded to the same remedy. As to her present symptoms I could have no doubt of their being caused by inflammation of the periosteum over the lower part of left side of forehead, over the orbital ridge, and for a certain distance beneath that ridge, on the orbital plate of the frontal bone; that the tumour formed by effusion between the bone and periosteum in this last situation had protruded and pushed downwards and outwards the eye; that the redness and œdematous swelling, which we observe in this disease in other parts, was more remarkably situated here, on account of the loose cellular tissue of the eyelids.

I blistered the temple, and as she had been taking the hydriodate of potash, it was stopped, and the oxymuriate of mercury, $\frac{1}{16}$ of a grain in a drachm of tincture of bark, was given thrice daily.

8th. Much better; she can now raise the eyelid sufficiently for vision, having previously raised it with her finger; the eyelid is still, however, much swollen, but the œdematous swelling of it can be distinguished from a well-marked tumour under the eyebrow, which is hard, but now only tender on strong pressure, and she scarcely suffers any pain. The other orbit is quite well.

11th. Improving, but cannot yet raise the eyelid on account of the swelling. In the tumour below the eyebrow

distinct fluctuation can be felt. Having taken two mixtures of the oxymuriate, containing altogether two grains, I put her on hydriodate of potash again, six grains three times a day.

18th. The redness and œdematous swelling have left the eyelid, but she can only imperfectly uncover the eye, which is still below the level of the other, this being caused by the well-defined tumour, now more evident in consequence of the disappearance of the surrounding swelling, it occupies more than the inner half of the roof of the orbit. I ordered it to be rubbed each night with a small quantity of mercurial ointment. This had an excellent effect on the tumour, which diminished rapidly; but in the beginning of February she caught a severe cold, when the tumour became larger and more painful, and though she recovered from the other effects of the cold, it continued to increase, and to become red and fluctuating. A few days after she called my attention to a small, tender, periostitic tumour, on the edge of the other orbit. A week after, from exposure to cold, she suddenly became affected with acute laryngitis, so severe, that rapid mercurialization was demanded. The moment the mouth became sore, the tumour began to diminish, finally to the size of a small bean, soft and fluctuating; she could nearly raise the eyelid quite well.

August 3rd. Since the last report the tumour in the left orbit burst, and discharged a thin matter, after which it did not close; the little tumour in the other orbit remained stationary. She went to the country, and returned with her general health improved, but the sore under the edge of the orbit remained open, and the eye a little displaced downwards. To-day I got a note requesting me to see her immediately, as she was out of her mind. I found her sitting in a state of lethargy, her head hanging down, and the expression of her face dull and heavy; when roused, she answered questions imperfectly and sluggishly, and then re-

lapsed into the previous lethargic state. It appeared that she had been more or less in this condition for some days, and that she occasionally raved. Pulse slow and labouring, 76; she put out her tongue when told to do so: with much difficulty I got her to go to bed. Two grains of calomel were ordered to be given every third hour, and a blister to the forehead, above the eyebrow, when she complained of pain.

6th. The mercury has affected her gums, but the only change is for the worse. She is in fact, and has been for the last two days, in a state of coma; she lay with the eyes open, both distorted downwards by the tumours below the eyebrows (the right very little so); occasional stertor; and passes under her; pulse 68. After this she regained her senses to a certain extent, answered questions, and put out her tongue when desired; but this amendment lasted only a short time, she again relapsed into coma, gradually sunk, and died.

I could only obtain leave to open the body forty-three hours after death, when, from the extreme heat of the weather, and perhaps the cause of death, it was far gone in putrefaction. There was no congestion of the brain; the bone on the inside of the cranium, which corresponded to the periostitic tumour in the orbit, was slightly carious, rough and soft; the dura mater over it thickened, as was also the corresponding portion of the arachnoid; the substance of the brain was too far gone to judge of any pathological change in it. What had been ascertained, however, was sufficient to prove that the inflammation of the periosteum over the roof of the orbit, had produced inflammation and caries of the bone, which, being exceedingly thin, had become affected quite through, so as to engage the membranes of the brain itself over the diseased spot.

I should apologise for detailing a third case, were the disease of more frequent occurrence, but I think, besides its

rarity, there are several points of interest which will well repay the perusal.

TUMOUR IN THE ROOF OF THE ORBIT, DISPLACING THE EYE.

Daniel Dunn, æt. 47, a coachman, admitted into No. 9 ward, March 27th, 1845. Three years ago he first became subject to a dull pain in the left eyebrow, with soreness; the pain was worst at night. About a year after, these symptoms became aggravated, and accompanied with swelling, though his wife, before this period, had perceived a difference in the eye and eyelid on the left side.

His vision became troubled; he saw double, *one object above another*, and he found that he could see much worse on looking down. If, for instance, he wished to see an object below the axis of vision, he accomplished it best by looking a little above it; if, while driving, he directed his sight at the horse's collar, he would see the body of the horse, whereas, if he looked down at the latter, it would disappear from his view. He soon became conscious that the eye was pushed out of its place, and there was a constant sensation of dust in the eye, and he had not quite as perfect a power of the motion of it and the eyelid as previously. On admission his state was as follows: The eye was displaced downwards, forwards, and a little outwards; the infra-orbital fossa was nearly filled up, particularly on the inner side, in which situation, immediately under the orbital ridge, a small smooth tumour could be felt, very hard, like bone, and evidently springing from the roof of the orbit, deeper than this there was a small soft swelling, like a soft tubercle. No discoloration of the integuments; there was a little tenderness over these swellings, and here, and in the supra-orbital region, he formerly used to suffer pain. He is not subject to headach, but has had violent ear-ach of the left side; he thinks a year ago the eye was more displaced than now. Pulse regular; tongue clean.

As it was probable that the tumour of the bone in this case had arisen from a very chronic inflammation of the periosteum, I put him on three grains of blue pill, and one-fifth of a grain of iodine three times a day, which was continued to slight salivation. He left hospital about the 8th of April, much improved in many respects; no pain, no tenderness, and he thinks the motion of the eyelids freer; the tumour, however, was very little altered, though I fancied it had rather diminished. I was not disappointed with the small effect of the medicine on the tumour, because bony deposits from periostitis are so seldom absorbed, and when so, only after very protracted treatment.

May 13th. He continued pretty much in the same state during a month after he left the hospital, but two days ago he began to suffer dreadful pain in the orbit and forehead, totally depriving him of rest night or day. He came to me in great pain; referred to the orbit, the forehead just over orbit, and to the temple. The part of forehead affected was rather tender to the touch; the eye was more displaced forwards, and the lids could not be so completely shut over the ball. The infra-orbital space was more filled up, and the colour slightly redder. On a careful examination in this situation, I discovered in the place of the hard, bonelike tumour I had felt before, a softer swelling, in which fluctuation was manifest. As the pain was urgent, I first explored with a grooved needle, and finding matter I passed in a bistoury, when about a teaspoonful of thickish pus came out. This gave him great relief. Through the opening I could pass a probe, at least an inch and a half towards the bottom of the orbit.

15th. The eyelid enormously swollen; the swelling extending to the temple and cheek; a good deal of pain, but less so than on the 13th; the wound is discharging freely, but I did not think it quite large enough, and, therefore, extended it, and some matter flowed freely out with relief. It was very difficult to raise the eyelid to the smallest degree; when

accomplished, the cornea (quite clear) appeared buried in chemosis of a pale colour. At a point below the other opening, I made a second, where the swelling seemed most elastic and fluctuating; only a little flocculent matter, mixed with blood flowed out.

20th. He has gone on well since; the swelling of the eyelid diminished two-thirds at least; the redness less intense, and less discharge; the pulse was quiet; the tongue moist, and only slightly furred; no headach, and sleep good. I, therefore, thought it best for him to leave hospital, and to call on me occasionally.

29th. The eyelid is getting more natural, and can be distinguished from the swelling; he can very slightly raise the lid; thin yellow discharge still comes freely from the opening. I introduced a probe for two inches upwards and inwards, but I could not feel the bone; a soft membrane appeared to be between it and the probe.

June 6th. He told me that yesterday, while blowing his nose, a gush of matter mixed with air bubbles came out. I requested him to blow hard, holding the nostrils, some matter came out, mixed with air, as he had told me, and after a strong current of air, with a whistling noise; it was clear that the disease had perforated the roof of the orbit, and entered the frontal sinus. I passed a probe through this opening into the sinus, and it went at least two inches upwards. The swelling is reducing, and he feels better.

Though this case is not as well marked an instance of periostitis as the others, I am yet inclined to believe this tumour to have arisen from an inflammation of the periosteum, of the roof of the orbit, on account of the pain, of the size of the swelling having at one time been greater, and on account of the tenderness on pressure. Suppuration is also not uncommon in cases of bony depositions from periostitis in other situations. A man was lately under my care in the hospital, who had a large bony node of the tibia, on the summit of which suppuration took place beneath the peri-

osteum. In Dunn, the bone, being excessively thin, became perforated by the caries, and most fortunately the frontal sinus being large, was opened, and not the cavity of the cranium. With the recollection of Mrs. B.'s case in my mind, I shall not cease to feel anxiety about Dunn, till all discharge has ceased, and the opening has closed.

Where the eye, as in all these cases, was so considerably displaced, much derangement of vision would naturally be expected. Though this was, to a certain extent, the case, it did not correspond in degree to the displacement, and it is a point of considerable interest, that the latter still continuing, the vision, at first greatly impaired or nearly lost, again returned. The double vision, the result of the difference of the axis of vision in the two eyes, presented the peculiarity of the *false object appearing above the true*; whereas, when double vision results from morbus cerebri, the two images generally appear side by side. In all the instances I have met with, the periostitis has occupied the same situation, viz., the inner two-thirds of the orbital plate of the frontal bone, extending from the eyebrow, more or less deep within the orbit; it may be explained by this part being covered by the integument alone, whereas at the outer angle the lachrymal gland lies on the bone, and the surface of the bones in every other part of the orbit is uniformly well covered. When the pain in the eyebrow is accompanied by swelling beneath it, and displacement of the eye, the recognition of the disease would appear to be easy, but in the first case I published, it was not recognized for some time, and in the second case, a practitioner who saw the woman before I did, not knowing the history, mistook the disease. Where there is inflammation of the periosteum without any very observable swelling, such mistakes are more likely.

James M'Geer, æt. 45, a carpenter, residing at 54, Francis-street, complains of a violent pain above the left eyebrow, with general soreness to the touch of the whole of that side

of the head, but not the shrinking soreness of periostitis, nor is the painful part, above the eye-brows, sorer than the rest; he has also severe pain in the left temple; no pain anywhere else. It came on ten weeks since, with pain from the lower jaw to the temple and eyebrow; since the commencement he has been in an almost constant state of suffering, as it never ceases during the day, but becomes greatly aggravated at night, particularly at 12 o'clock, when it awakens him from his sleep. It has wasted him considerably; he thinks the eyelid a little swollen; the sight was not quite as good, having occasional dimness and spots before the eye. He was always a temperate man, and has not had syphilis for the last twenty-seven years. When he had been ill a fortnight, he applied at an hospital, where he got purgatives and bitters, and a blister was applied to the back of his neck, but with no relief. He then applied to another institution, where he was again blistered on the back of the neck, and got medicines, but he only became worse, and is so worn out by the pain, that he is anxious to do anything for relief.

There was very slight swelling of the eyelid, or rather an appearance of œdema, which does not, however, pit on pressure, but the important point was, that pressure under the eyebrow, on the orbital plate, gave great pain, the true shrinking pain of periostitis. This tenderness exists along the whole under edge of the orbit, with a feeling as if there was some degree of thickening. He was put on the use of mercury.

30th. Much improved; slept for ten hours, which he has not done for two months.

Oct. 4th. Mouth quite sore; he is otherwise quite well; no œdema of the eyelid; sleeps well, and is not troubled with pain of any kind.

This man, about a year afterwards, came to the hospital with a node on the forehead.

The chief diagnostic mark of periostitis of the orbit, as

in other situations, is the excessive tenderness felt on pressure over the bone ; now the only means of ascertaining this, when the disease is in the roof of the orbit, is by pressure *upwards*, the great cause of oversight being, I believe, that in examining for the cause of swellings occurring beneath the eyebrow, pressure is made every where but in this direction. Tenderness on pressure, however, by itself, is not sufficient ; to be the tenderness of periostitis, it must be persistent.

I was asked to see a servant boy of Mr. Burrowes ; he complained of the most intense pain in the left eye and eyebrow, extending to the temple ; it was so severe, that it had obliged him to go to bed. The eye looked red, but was not inflamed. He had been ill a week ; the pain began early in the morning, and lasted during the greater part of the day, but got nearly well at bed time. I had little doubt that it was a severe attack of hemicrania, but wishing to ascertain the existence of tenderness on pressure along and under the eyebrow, I pressed with moderate firmness in those situations. The tenderness, particularly in the site of supra-orbital nerve, was so excessive, that it could scarce be borne, but when in the evening the paroxysm was over, there was no tenderness whatever.

From the cases I have related, it follows that we may meet with

1st. Pain in the orbit, supra-orbital region, temple and side of head from periostitis, with little apparent swelling.

2nd. With such amount of swelling as to displace the eye.

3rd. With suppuration, caries of the bone, perforation of the frontal sinus, or where the disease is situated deeper than the frontal sinus, the diseased action may extend through the orbital plate of the frontal bone into the cavity of the cranium, to the membranes of the brain, and cause death.

These varieties will be readily explained by attending to

the different forms in which periostitis presents itself, either simple thickening of the periosteum, deposit of serum, cartilage, bone, or pus between it and the bone. That in cases of pain in the orbit, &c., pressure should always be made directly *upwards* on the roof of the orbit, acute persistent tenderness in that situation being one of the most decided marks of the disease.

DISLOCATION OF THE KNEE JOINT.

This luxation is so very rare that I am induced to add the following to the few cases of it already on record.

Robert Harrington, æt. 27, a baker, a small but muscular man. On Saturday morning, May 31st, 1845, was driving a bread cart, when the horse fell; at the time he was standing, leaning back on a large, heavy breadbasket, between which and the bar of the cart in front, his left leg was firmly fixed, and remained so while his body was violently thrown forward, as the horse fell. The sudden forcible rotation which the lower end of the femur performed in this movement, dislocated it backwards and downwards behind the head of the tibia. He was brought to the hospital, and Mr. Nedley, the resident pupil, and my apprentice, Mr. Robinson, saw him on his admission, and soon recognized the nature of the accident. When I arrived, nearly two hours had elapsed since the fall; he was lying on his back on a table; he was beginning to shiver, and to complain greatly of the pain in his knee, and a sensation as if his foot was on fire; the limb appeared much deformed; the foot and leg straight, but the tibia, particularly at the upper part, projected unnaturally. Above the head of the tibia, instead of the usual prominence of the patella, there was a deep depression, with transverse wrinkles from the relaxed state of the integuments. The patella was found resting obliquely on the articulating surface of the head of the tibia, its anterior surface looking obliquely upwards; behind the head of the tibia was a large prominent tumour, formed

by the condyles of the femur, which could be very distinctly felt, as the integuments, so loose in front, were behind quite on the stretch. There was shortening to the extent of three quarters of an inch ; motion of the dislocated joint gave great pain, particularly any attempt to evert the foot, which, if anything, was slightly inverted ; the muscles on the anterior part of the femur were very much relaxed ; those on the posterior part tense and very rigid ; the sartorius formed a large belly on the inside of the joint ; the upper part of the calf measured an inch more than the right. At the time I did not think of examining the state of the popliteal or anterior tibial arteries.

The reduction was accomplished in the following manner : Two porters fixed the body, while the two resident pupils, Messrs. Nedley and Thetford, were desired to pull the leg slowly and steadily ; I placed my hands under the lower part of the femur, and as they extended, lifted it up ; it slipped into its place immediately with a snap. After the reduction there appeared considerable swelling in the knee from effusion, and the joint felt very loose, but all pain ceased. The limb was fixed with a scored wooden splint, and pad behind the knee, and a cold lotion ordered.

June 16th. Has gone on without a single bad symptom since, the only treatment the cold lotion and splint.

ART. XIV.—*A few Remarks on a Paper by Dr. R. Mac Donnell, on a " Peculiar Form of Disease of the Heart."*
By J. HILL, A. M., M. B.

TO THE EDITOR OF THE DUBLIN JOURNAL OF MEDICAL
SCIENCE.

MY DEAR SIR,—Relying on your well-known character for impartiality, I feel it unnecessary to offer any apology for requesting you to insert the following remarks in the forthcoming number of your valuable periodical.

In the last number of the Dublin Journal of Medical Sci-

ence, there appeared, under the head of Original Communications, an article by Dr. Robert Mac Donnell, entitled, "Observations on a peculiar Form of Disease of the Heart, attended with Enlargement of the Thyroid Gland and Eyeballs."

Dr. Mac Donnell commences by stating that the cases embodied in his paper present examples of a form of cardiac disease unlike any other with which he is acquainted, either from his own experience, or from the descriptions of writers on diseases of the heart, and in their complications exhibiting such striking singularities, that he has deemed them worthy of being laid before the Profession.

He then observes: "I may, however, be wrong in supposing that this disease is quite unknown to other physicians, though I have not seen or heard of its being described by any writer, and amongst my own acquaintances I know of but two physicians who are fully acquainted with the form of disease I am about to detail; I allude to Drs. Graves and Stokes, who have both had under observation the first case to be met with further on, and the second case has been twice under the observation of Dr. Stokes, to whom I can confidently refer for the accuracy of the account I have given of it. To Dr. Graves is due the merit of having first directed attention to what I consider to be the incipient stage of this form of disease, and it is to be regretted that in the edition of his admirable work on Clinical Medicine, he did not furnish the Profession with the termination of the cases I am about to quote, which were first detailed in one of his clinical lectures, published in the Medical Gazette." Dr. Mac Donnell then proceeds to cite Dr. Graves's remarks on three cases of violent and long-continued palpitations in females, "in each of which the same peculiarity presented itself, viz., enlargement of the thyroid gland;" and at the conclusion of the quotation he refers the reader to "Graves' Clinical Medicine, p. 674."

In the cases selected from Dr. Graves' work, the chief

peculiarity consisted in tumefaction of the thyroid gland, and they differ from Dr. Mac Donnell's own cases, in not exhibiting "enlargement of the eyeballs." If, however, we turn from page 674, to which Dr. Mac Donnell has referred his readers, to page 676 of the same work, we shall find the case of a lady who was affected with violent and rapid action of the heart, apparent enlargement of the eyeballs, and tumefaction of the thyroid gland. This case, which was published by Dr. Graves in 1843, appears to me to bear a very striking likeness to Dr. Mac Donnell's, in the peculiar characteristics of palpitation, "attended with enlargement of the thyroid gland and eyeballs;" and it seems strange that Dr. Mac Donnell should have omitted to notice it.

In the two cases detailed by Dr. Mac Donnell as having occurred under his own observation, the prominent symptoms were powerful and rapid action of the heart, without evidence of hypertrophy of the organ, or alteration in the structure of the valves; enlargement of the thyroid gland; and protrusion, with apparent increase in size, of the eyeballs. As to the prognosis, he admits that he is not in a position to give any opinion respecting it, both his patients being still alive, and somewhat improved in health.

Having thus briefly noticed the leading points in Dr. Mac Donnell's paper, I shall now proceed to shew, that, so long ago as January, 1841, this "peculiar form" of cardiac disease, in its advanced stage, was described by Sir Henry Marsh, at the Fifth Meeting of the Dublin Pathological Society. The proceedings of that meeting, as noted by a reporter, were published in the 20th volume of the Dublin Journal of Medical Science, from which I extract the following quotation:

"Sir Henry Marsh wished to exhibit another preparation, illustrating a very curious and interesting affection of the heart. It would be, perhaps, in the recollection of many of the members, that he had, last year, described a singular variety of disease of the heart, and one which, since that time,

he had more than one opportunity of verifying by dissection. The disease of which he then spoke presented the following striking characters—*remarkable engorgement of the veins, particularly of those of the neck; rapid, violent, and irregular action of the heart, and these, in every instance, co-existing with enlargement and swelling of the thyroid gland.* He had mentioned also, that *in the majority of these cases, there was a remarkable prominence and protrusion of the eyeballs*, so as to give to the group of symptoms by which this disease was characterized a very striking feature. All these phenomena had been observed in the case which he was about to lay before the Society. The prominence of the eyeballs, though existing in this case to a very great degree, was not so strongly marked as in other cases he had witnessed. The enlargement of the thyroid gland, increasing and diminishing as the heart's action was more or less violent, was also present. The immense distention of the veins of the neck, and the habitually rapid, violent, and irregular action of the heart were likewise amongst the symptoms which were observed in this case. The first point to which he would direct attention was the condition of the thyroid gland. It was altered in appearance since it had been first examined, it was now considerably shrunken; in its recent state it was much larger. When first removed its surface was irregularly lobulated, and the lobes or cysts contained a considerable quantity of clear fluid. During life it projected so as to form a very large and prominent tumour; whenever there was any inordinate action of the heart, it appeared to swell and increase in size, whilst, at the same time, the veins of the neck were so greatly distended as to give the patient a very extraordinary appearance. The external jugular vein on each side formed a tumour of considerable size. On examining the body after death the internal jugular vein of the right side was found so very much dilated that when emptied by puncture it measured an inch and a half across; it was filled with dark, fluid blood; one of the enlarged lobes of

the thyroid body lay over the carotid artery, which communicated a strong pulsation to the whole mass. The lungs were forced considerably upward, so that the apex of the lung on the right side passed up as high as the fifth cervical vertebra.

"Sir H. Marsh next exhibited the heart, and observed that the appearance of the auricles, when first seen, was very remarkable; the left auricle was enormously enlarged; he did not think that its walls were hypertrophied, but its capacity was far beyond the normal standard. The dimensions of the right auricle were also considerably increased, though not to such an extent as those of the left, and the muscular fibres of its walls were slightly hypertrophied. The left ventricle was dilated and hypertrophied, but not to a remarkable degree; along the margin of the mitral valve were depositions beneath the lining membrane: in the recent state they resembled depositions of granular fat, and their effect was to thicken the edges of the valves, and of course interfere with the free discharge of their functions. The same disease existed, and to a greater extent, in the valves of the right ventricle. Sir H. Marsh here exhibited the valve, the margin of which was much thickened by this abnormal deposit. The semi-lunar valves of the aorta and pulmonary artery were healthy; the disease appeared to be restricted to the auriculo-ventricular valves, those of the right side being most altered. Such were the morbid alterations in the heart before him. The subject of the case was a tall person, and he had several times observed the disease in persons of tall stature. The patient suffered greatly from palpitations of the heart and dyspnœa, much aggravated by exercise and mental emotions. The action of the heart was irregular, and very peculiar; it made three beats in succession—the first was strong and distinct—the second, which closely followed the first, sounded almost like a double beat—and the third was somewhat more distant, and followed by a pause. The

symptoms had existed for a long time, and were not accompanied by bruit de soufflet, or any analogous sound. The disease terminated in general anasarca, followed by erysipelas and gangrene.

“ Sir H. Marsh said, he had taken a few notes of another case, which had lately come under his notice, and he would read them for the meeting, as in this instance the disease was very well marked. The subject of the case was a woman, about 40 years of age, who had been originally very plump, and was of low stature, differing in this point from the other cases he had met with, the disease having been generally observed in tall persons. She had been married, had borne ten children, and menstruated regularly. She was a person of lively and energetic manner, of a highly nervous temperament, and evinced much activity both of body and mind. She stated that she had been subject to epistaxis, but exhibited no signs of disease either of the head or chest, and her digestive functions were natural. She also said that she had been for a considerable time in attendance on an epileptic relative, and that this had kept her in a constant state of nervous excitement and apprehension. Sir H. Marsh said, he had mentioned this particularly, because the disease which he had been describing seemed to begin with nervous palpitations. Her face was pale and somewhat tumid, *eyes prominent*, her lips purplish, the veins of the neck considerably distended, *and the thyroid body much enlarged*. The impulse of the heart gave motion to the integuments over a space exceeding far the ordinary limits of the cardiac region; and there was considerable extent of dulness on percussion. The first sound of the heart was short, quick, and loud; the second faint and scarcely audible, in consequence of being masked by the first, but there was no bruit de soufflet or any other abnormal sound. She complained of being subject to attacks of dyspnœa in the morning, accompanied with a sensation of fluttering in the heart; she sometimes had similar

attacks during the day, but not so severe. Any unusual exertion, or sudden mental emotion, was sufficient to bring on distressing palpitations. Her pulse was quick and jerking, never below 90, her respiration clear and puerile. The bruit in the carotid artery, where it was pressed on by the thyroid gland, was actually perceived by the patient, and caused a great deal of annoyance; she stated that she felt a whizzing sound in her neck, of which she never could get rid, and that it was one of the most distressing sensations she felt. Sir H. Marsh said, he had read the notes of this case because they appeared to him to convey a good description of the disease. He thought that in this case there was no valvular disease, but he believed that if the affection had been unchecked, morbid alteration of the valves would have been the probable result. In the treatment of the case he had enjoined the strictest avoidance of every thing calculated to agitate the mind or fatigue the body, and had found the exhibition of carbonate of iron, with extract of hyoscyamus, very beneficial. He thought much advantage might have been derived from travelling and change of air, but the circumstances of the patient prevented her from availing herself of them."

The length of the foregoing extract deters me from trespassing further upon your space, by any observations of my own on the peculiarities of this form of cardiac disease. An unprejudiced comparison, however, of Dr. Mac Donnell's cases and observations, with the Report of the Pathological Society quoted above, will, I think, convince any impartial reader, that the malady in question is not only known beyond the limited circle drawn by Dr. Mac Donnell, but that its description was published more than four years ago in the pages of your Journal.

In conclusion, I beg leave to observe, that although I should be sorry to be classed amongst those who employ their time in raking up the opinions and statements of long-

forgotten authors, in order to bring invidious charges of plagiarism against the moderns ; yet I think I may be allowed to express the opinion, that a gentleman, who, like Dr. Mac Donnell, has delivered lectures on pathology and diagnosis, and who has, moreover, been for some time connected with the medical literature of this country, ought to have been acquainted with the published Reports of the Dublin Pathological Society, of which he is, I believe, himself a member. Whilst, on the other hand, if he had ever read or heard of Sir Henry Marsh's communication, I assert, he ought to have felt that his own claim to originality, in the instance before us, was not only without foundation, but an act of literary injustice to one of the most distinguished members of our Profession.

I am, my dear Sir,

Faithfully yours,

J. HILL.

22, *Ely-place*, June 6th, 1845.

BIBLIOGRAPHIC NOTICES.

Lectures on Subjects connected with Clinical Medicine, comprising Diseases of the Heart. By P. M. LATHAM, M. D., &c. &c. In 2 Volumes. Vol. I.

MANY of our readers are doubtless acquainted with a useful little work published by the author some years since, and chiefly devoted to the consideration of the diseases of the lungs and pleura. The present is the first portion of a work on a similar plan, on the diseases of the heart and pericardium, and is devoted to the pathology and treatment of their inflammatory affections, more especially as met with in combination with acute rheumatism.

It does not address itself so much to the practitioner as to the younger students of the Profession, for whom it is well calculated, as it is strictly elementary in its matter, and simple and intelligible in its manner of illustrating the affections treated of; dwelling, however, with almost tedious diffuseness on subjects already familiar to any acquainted with the principles of the Profession; as for instance, on the action of mercury in cases of inflammation, to which two lectures are entirely devoted, without, as appears to us, enunciating any thing novel or necessary to the purpose of the treatise.

Of the seventeen lectures four are devoted to the consideration of the healthy and morbid sounds of the heart, and it is interesting to observe the conclusion to which a physician of such experience has come, with regard to the possibility of making an accurate special diagnosis from the character of these morbid sounds.

“ Upon the whole my persuasion is, that no practical good has come from curiously naming, and noting, and multiplying endo-cardial murmurs. The *mere* murmur can only tell me whether it proceeds from the inside, or from the outside, of the heart. For more than this I cannot trust it. But in telling me this, it tells that which I have no possible means of knowing without it. Having deter-

mined that the murmur is endo-cardial, and proceeds from within the heart, if I desire to know, moreover, whether it arises from valvular disease, and from valvular disease on which side of the heart, and at which orifice; then, for the more exact diagnosis, I must add to the mere endo-cardial murmur, a reckoning of the time at which it occurs, and a reckoning, too, of the space within the præcordial region, at which it is chiefly heard, and of the direction in which it is conveyed.

“And if (what is most important of all) I aim at a diagnosis of the endo-cardial disease, in respect of its essence and nature, then, to the mere sound, and its place, and its direction, I must add a reckoning of the actions and suffering of the constitution at large, which precede it and attend upon it. These, which are the highest considerations of all, are reserved for their proper place.

“In the mean time I would observe, of the mere murmur, that nothing would be lost in propriety of language, and much gained in simplicity, if the term *endo-cardial* was made to include all the ordinary varieties which proceed from within the heart, and were the single term in common use, and if the fantastic similitudes which have been mentioned were only now and then employed, to help us in describing something extraordinary, it would be all the better.”—p. 52.

In describing the modifications of the heart's murmur, which arise from deformity, the author mentions a case which deserves to be borne in mind, and which, we have reason to believe, is not confined to the class particularized, but may be met with in delicate *female adults*.

“A little boy, aged eight and a half years, high spirited and vivacious, but thin, and out of health, was brought to me under suspicion of disease of the heart. Its impulse was not felt beyond the apex, but there it was in excess; yet there was no larger space of dulness than natural in the præcordial region. Upon auscultation, however, this remarkable peculiarity was made out. When the ear, or the stethoscope, rested gently upon the præcordial region, no unnatural sound was heard; but when either the ear or the stethoscope was applied with such force as to cause the ribs to sink a little below their natural level, then a loud bellows murmur sprang up. The space at which it was heard, and not beyond it, was just so far as the mouth of the stethoscope covered when it was placed upon the cartilage of the third rib as a centre. Below and above this spot the murmur vanished, and it was audible neither in the course of the aorta nor in the carotid. This case, which occurred to me five years ago, has made me watchful ever since, lest haply I might sometimes create the murmur I was in search of. And it is no needless caution, where the patient is young, and the framework of the chest is yielding. Never indeed, the chest being not deformed, never, but in this single instance, have I produced a murmur, simulating that of valvular disease. But very often, when over earnest in what I was about, I have pressed too heavily upon the præcordial region, a sort

of jarring sound has reached my ear, and brought with it the suspicion of disease, until setting the heart free from the weight and the restraint which I had inadvertently imposed upon it, I have at once lost the sound, and the apprehension too, which had arisen from my own awkward manœuvering."

Passing from these preliminary matters to the inflammatory affections of the heart, the first thing to be noticed is their frequent occurrence as complications of acute rheumatism. The most frequent, in Dr. Latham's experience of these, is endocarditis. Its pathognomonic sign is the bellows murmur, and the different conditions under which, and periods at which this is detected, are thus explained.

"So important do I consider the gain of time in the treatment of endocarditis, that I deem myself justified in acting upon a strong expectancy of the disease before the murmur has yet unequivocally declared.

"The diversities of relation which the endocardial murmur is found to bear to other symptoms belonging to the heart, in various cases, are well worth a little further notice and consideration. Far from remarking these diversities, and calculating, together with them, the success or failure of remedies, according to the time and conditions of their application, I am led to conclude, that the endocardial murmur also bears, in different cases, a different relation to the actual stages and progress of the disease itself, a fact which, if it be true, must have important practical bearings.

"I believe then, first, that in some cases of endocarditis, the murmur is coincident in point of time with the very commencement of the inflammation; secondly, that in some, and those the most frequent cases, it does not arise until the inflammation is somewhat advanced. Thirdly, that in some, and those the least frequent cases, it does not arise until the inflammation is on the decline, or is actually ceased.

First, the coincidence of the murmur with the commencement of the inflammation seems thus denoted. Upon a review of cases, I find that it was often the first symptom detected. The patients had hitherto suffered no pain or uneasiness of the præcordial region—no palpitation, no dyspnœa. But the murmur being once heard, pain, palpitation, and dyspnœa, one or all of them, quickly followed. Here then, if ever, the murmur marks the beginning of the disease, since if the disease existed prior to the murmur, it must have existed for a time without any symptom at all. The fact is rendered more probable from these farther considerations. It was in these cases that medical treatment, promptly applied, was oftenest successful, and it was in these cases, more frequently than in any other, that the murmur altogether ceased under the use of remedies, and so afforded the best evidence we can have of a perfect cure.

"Secondly, the postponement of the murmur to a somewhat

more advanced stage of the inflammation seems denoted thus. Upon a review of cases I find that in the majority of these, the murmur was preceded by other symptoms, more or less referrible to the heart, such as pain or anguish, palpitation or dyspnœa, and that an interval of from one day to a week was apt to elapse between the first appearance of such symptoms, and the subsequent accession of the murmur.

“Now although the symptoms enumerated could only direct suspicion to the heart, and had they passed away without any accession of the murmur, it must have remained doubtful in what manner the heart had been affected, or whether it had been affected at all: yet the murmur when it at length arrived, became the sure interpreter of all that preceded it. It declared the other symptoms to proceed from the same disease as itself, viz., endocarditis, and that this disease had existed as long as they had existed, and for some time before it became audible. The effects of remedies in these cases, both by their success and their failure, pointed distinctly to the same conclusion. There were among them examples of perfect cure, these were the cases in which the murmur was preceded for a day or two by præcordial pain, palpitation, and dyspnœa, *coming on while the patients were already under medical observation*. These, as soon as they appeared, served as signals to direct the remedies to the heart. Thus the treatment of the endocarditis was instituted in anticipation of the disease, before its authentic sign had yet arisen and determined its undoubted character. I say in anticipation of the disease—I ought rather to say, in anticipation of our own certain knowledge of it; for the murmur, after the lapse of a few days’ arose, and thus distinctly marked the nature and seat of the disease. But in a few days it ceased, and thus distinctly marked the perfection of the cure.

“Again, among the cases belonging to this class, there were many of imperfect cure. These were those in which the murmur was preceded for a longer time by præcordial pain, palpitation, and dyspnœa, *which came on before the patients were yet under medical observation*. It was not uncommon to find in the subjects of acute rheumatism, that præcordial pains and palpitations had existed for two or three days before their admission into hospital, and yet there was no murmur, and that these præcordial pains and palpitation would still continue for two or three days after their admission, ere any audible roughness or murmur was detected. Here the treatment was instituted at the earliest period possible under the circumstances, and was still beforehand with *our knowledge* of this disease, but it was too late for the *disease itself*. At length the murmur arose, shewing what all the previous symptoms meant, and declaring the disease, both what it was, and where it was, and sanctioning its conjectural treatment. But having arisen, it never ceased, and thus distinctly marked the imperfection of the cure.

“These facts hardly leave it doubtful that endocarditis, and all its essential morbid processes, as well as the opportunity of its treat-

ment, are often comprised within a period prior to any audible murmur; that even within this period, the disease begins and advances, and often proceeds so far as to do an irreparable injury to the endocardium, and that within this period, the opportunity of its treatment must be promptly seized to be successful, and that if tardily used, it will even then fail.

3rdly. That sometimes the murmur does not arise until the inflammation is on the decline, or has actually ceased, seems very probable from the following considerations. There were a few well watched cases in which this happened. During the progress of the rheumatic fever, and the patient's confinement to bed, no murmur was audible, but when the fever and the rheumatism had ceased, and the patient had left his bed, and was walking about the ward, and was already deemed convalescent, then the murmur was, for the first time, audible. In these cases any previous symptoms which could intimate a possible suspicion of the heart being affected were very slight, and had yielded to slight remedies, or no such symptoms were either noticed or treated at all.

"The endocardial murmur, arising under these circumstances, was unchanged by medical treatment, and remained as long as the patients continued under observation.

"The inference from such an event is clearly this, that an inflammation of the endocardium had accompanied the rheumatic fever; that this inflammation was of small activity, and insufficient, during its progress, to interfere with the natural sensations, movements, and sounds of the heart, but enough, in the end, to produce, by its effects, some permanent inequality on the surface of a valve, and a permanent murmur as the sign of it.

"Now if the foregoing facts be true, and the conclusions from them be just, they will help us greatly in estimating the real value of the murmur as a sign diagnostic of inflammation of the endocardium, and as a guide for its treatment."

In the following lecture (7th) on pericarditis, one or two things are advanced by the author to which we cannot subscribe. Contrary to the observations of Drs. Stokes, Mayne, &c, he thinks that the friction sound undergoes no change upon the supervention of liquid effusion into the pericardium, and he assigns a reason which is as doubtful as the fact for which it is assigned.

"If the common experience," says he, "be in accordance with my own, and if my own speak the truth in this matter, the fact will be that serious effusion within the pleura, *always* obliterates the attrition sound, and that serious effusion, within the pericardium, *generally* leaves it unaltered. Now there must be some way of accounting for so different a result from conditions apparently the same. The following considerations, perhaps, point out a way that is plausible at least.

“Fluid within the pleura exercises its pressure upon the most yielding organ in the body, the lungs. They make no resistance, but shrinking in their dimensions, and giving place more and more as the fluid increases, they recede further and further from the ribs, until at length they are forced into an incredibly small compass by the side of the vertebral column, impervious to air and useless, but in themselves perfectly free from disease. But fluid within the pericardium produces no such effect upon the heart by its pressure. The heart, of all organs of the body, is the least yielding ; it is the pericardium that now yields. But then in the greatest accumulations of fluid within it, the space between the pericardium and the heart will bear no comparison with that between the pleura and the lungs, in ordinary cases of pleurisy.”

The objections to this passage are, first, that the fact of the persistence of attrition sound (except immediately over the base of the heart) is not supported by common experience. We need only refer to the memoirs of the two above named gentlemen, published in this Journal, to prove the contrary. Second : taking into consideration the relative extent of serous surface, there is not the disproportion remarked by our author between the pleuritic and the pericardial effusion. In this treatise, page 366, there is an account of a case in which *four pints* of fluid were found in the pericardium. Thirdly, in such a case the heart *is compressed and diminished in volume* ; its diastole is, to a great extent, prevented by the pressure of such an accumulation round it, and a train of symptoms arise, such as are here related : small pulse ; collapsed features ; debility not to be removed by cordials, and increased by an attempt at venesection ; fainting ; pulse becoming imperceptible for some days before death, &c. To which we may add a symptom which we have once remarked, and have seen noted in published cases, an exsanguine appearance of the face, perfectly unlike the hue of obstructed circulation, not livid, but pale to an extreme. In this instance the quantity of fluid effused was enormous, and the heart was about half its natural size.

One other remark we meet in this chapter, which is perhaps doubtful.

“My experience tells me that in acute pericarditis the fluttering, faltering action of the heart, and with it the respiratory anguish, are almost sure to occur, but that the time of their occurrence is almost always late, and that the murmur and præcordial dulness always precede them.”

Now as some observers, Dr. Graves for instance, regard the irregularity of the heart's action as a premonitory sign of

pericarditis, we think the point should be further investigated, with a view to determine at which of the periods this symptom most frequently occurs.

In the eighth lecture Dr. Latham gives an interesting statistical review of his experience of the occurrence of the two inflammations in acute rheumatism, of which the following is a summary.

Cases of acute rheumatism,	136
Heart exempt in	46
Heart affected in	90
State of disease of the heart:	
Endocardium alone in	63
Pericardium alone in	7
Endocardium and pericardium in . . .	11
Doubtful in	9

Deaths 3, in all of which both endocardium and pericardium were affected.

“Here,” says the author, “are momentous facts, which go (I suspect) a good deal beyond the ordinary notions entertained by medical men of this matter. It is believed, that among the sufferers of acute rheumatism, an individual now and then, unluckily, has his heart inflamed. The thing is looked upon as an accident, which, if not very rare, yet is not very common. But it appears from the event, not of a dozen or twenty cases merely, but of a number large enough to furnish the measure of what naturally belongs to the disease, that as many as two-thirds of those who have acute rheumatism, also suffer inflammation of the heart.

“Further, the pericardium is popularly regarded as the special and most frequent seat of the inflammation, which takes its rise from acute rheumatism. But it appears, from cases sufficiently numerous, that endocarditis occurs nine times in acute rheumatism for pericarditis once; that simple endocarditis constitutes more than two-thirds of all rheumatic cardiac affections, and simple pericarditis only one-thirteenth, and that pericarditis is more frequently found in combination with endocarditis than alone.”

The results were as follows:

“Of 63, whom the endocarditis did not kill, and who, as far as general symptoms could be trusted, might be pronounced convalescent or well, auscultation still told us that after the inflammation had ceased, the membrane recovered its complete integrity of structure only in 17, and that it remained permanently injured in 46. For of the 30 males, the subjects of rheumatic endocarditis, the endocardial murmur ceased entirely only in 8; while it remained after they were convalescent, and as long as they continued under observation, in 22; and of the 33 females, the endocardial murmur ceased entirely only in 9, while it remained in 24.

“ Thus, while inflammation arrested and life saved in all the cases which occurred, were 63 in number, do indeed sufficiently testify how small is the present peril of life in rheumatic endocarditis, yet the entire restoration of the endocardium to its perfect structure in 17 only, and the permanent injury done to it in 46, denote a most fearful disease, in regard to its distant results. For the probability is as great as 4 to 1 that inflammation befalling the endocardium, will become the rudiment of disorganization to the entire heart.”

The results of simple rheumatic pericarditis were these :

“ Of the seven who suffered simple pericarditis, none died ; life was saved in all, inflammation was arrested in all, and all resumed the general conditions of health. Neither, after inflammation arrested and life saved, did it happen to any one of these cases of pericarditis, as it did to 46 out of 63 of endocarditis ; not in a single case did the exocardial murmur remain after convalescence, to denote a still more abiding change of structure in the pericardium.”

The author justly questions whether this was owing to cure by absorption of lymph, or merely to adhesion of the surfaces of the membrane, but does not offer any diagnosis of the latter occurrence, such as the immobility of the heart's impulse under changes of position, relied on by some observers.

The results of rheumatic endocarditis were that

“ Inflammation was arrested and life saved in eight and three died. Of the eight who were convalescent from this double disease, one of the structures inflamed—the endocardium—underwent perfect reparation in two, for the endocardial murmur entirely ceased ; and imperfect reparation in six, for the murmur continued. As to the other structure inflamed—the pericardium—although the exocardial murmur ceased in all, it is doubtful whether its reparation was perfect in any. Probably there remained a greater or less extent of permanent adhesion.

“ In the three fatal cases the auscultatory signs denoting inflammation of the endocardium and pericardium, were well-marked, and on both membranes dissection disclosed the recent effects of inflammation, when it is arrested in its mad progress by death.”

Of the 136 cases of rheumatism, 24 were complicated by inflammation of the lungs to a serious extent ; they occurred in relation to the cardiac affections in the following proportions :

In 46 cases of rheumatism without cardiac affection there were 5.

In 63 cases of endocarditis, 7.

In 7 cases of pericarditis, 4.

In 11 cases of endocarditis and pericarditis, 8.

Two most interesting cases of the cardiac and pneumonic complication are detailed, but with such diffuseness that we cannot afford space for their insertion. They powerfully illustrate the necessity for prompt and steady administration of mercury in such desperate cases: the one by the recovery of the patient under circumstances the most desperate, by its free and continued exhibition till its fullest influence was obtained; the other by its failure, and the death of the patient, from the hesitating, undecided manner in which it was given. No practical rule is more important than that which teaches the necessity of continuous exhibition of mercury up to whatever point may be desired, as once its influence over the system is let go, it is not to be regained. In the present case it was given for a time; then suspended for several days; then as no salivation had occurred, it was resumed; then given up, and again resumed; no ptyalism was produced, and the patient died twenty-six days after the commencement of the pericarditis, and fifteen days after the pneumonia was detected. Dr. Latham himself attributes this event to the failure of the mercury, and he has, we think, done the student a great service by placing this case and its fellow so instructively together before him.

Dr. Latham seems to regard these affections (as they doubtless are), as essential portions of a general state originating in the blood. That such is his opinion we should at least infer from the following passage, which is the most definite we can find.

“Endocarditis and pericarditis are commonly spoken of as incidental to acute rheumatism. But beware of language, for it is often a great cheat. An incident is something that possibly may happen—a casualty. But whether endocarditis and pericarditis arise in two-thirds, or in one-half, or in not more than one-third of all the cases of acute rheumatism which occur, still to say of them that they are possible casualties, would lead people greatly to under-rate their frequency, and greatly to underrate, too, the amount of peril which belongs to the disease, entirely from their being a part of it. Besides, to speak of them as incidental seems to settle at once that their relation to the rheumatism is of a certain kind. But who shall say that endocarditis and pericarditis are not equally essential to it with inflammation of the joints, and that both are not equally derived from the attendant fever? Or who shall say that the arthritic inflammation, and the cardiac inflammation, and the fever itself, with its profuse and sour smelling perspirations, and the urine loaded with lithates and red colouring matter, do not all spring from some noxious principle, formed in, or finding its way into the blood, this last containing in truth the essence of the disease?”

We have no less than three lectures on the subject of mercury, two in which it is considered generally, which certainly seem out of place in this volume. The third, on the use of mercury in endocarditis and pericarditis, is a valuable practical chapter, to which, however, we must be content with referring our readers, as our extracts must now be brought to a conclusion, and with them our notice of the work itself.

It is exactly calculated for what it professes to be, an attempt to bring within the easy reach of the student the subject of the diseases of the heart; not intended to supersede the great works of Dr. Hope and others, but rather to lead to their study. In such a work a little diffuseness of style, and a long dwelling upon things with which the informed practitioner is familiar, though somewhat tiresome, is pardonable, and may be most useful. We have nothing more to which to object. The doctrines enumerated are sound and scientific; the practice inculcated most judicious. The student will be grateful for a guide so safe and perspicuous, offered by a teacher of such experience, high station, and ability as Dr. Latham, from whom we part with feelings of sincere respect, and with the hope of soon again meeting him in the progress of his useful labours.

A System of Surgery. By J. M. CHELIUS, Professor of General and Ophthalmic Surgery at Heidelberg. Translated from the German, and accompanied with additional Notes and Observations, by JOHN F. SOUTH, Surgeon to St. Thomas's Hospital. Parts 1, 2, 3.

MR. SOUTH informs us, in the prospectus, that the "Hand-book of Surgery" of Professor Chelius has passed through a sixth Edition, and we also learn that it has been translated into seven languages, sufficient proofs, in this book-making age, of the singular merit of the work. We think Mr. South has increased its value considerably, by many judicious notes and observations, and by his expositions of the opinions and practices of the best English surgeons.

We shall present our readers with a short extract, as a specimen of the manner in which subjects are treated by the author and translator; he will, we have little doubt, perceive the extreme clearness of the description, and the satisfactory way the different modes of treatment proposed by the best authors are detailed:

1. *Of Inflammation of the Tonsils.*

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“LOUIS, Sur la resection des Amygdales Tuméfiées, in the Mém. de l'Académie de Chirurgie, vol. v. p. 423.

“DESAULT, Œuvres Chirurgicales, vol. ii.

“PERRIN, N., Diss. sur la Rescission des Amygdales, Paris, an xiii. 4to.

“LEHWEHS, H., Diss. de Schirro Tonsillarum. Berol., 1817. 8vo.

“CHEVALIER, THOMAS, Description of an improved Method of tying diseased Tonsils, in Med.-Chir. Trans., vol iii. p. 80.

“PHYSICK, PH. SING.; in Philadelphia Journal of the Medical and Physical Sciences, vol. i. 1820, November, p. 17.

“LISFRANC, Considérations anatomiques, physiologiques et pathologiques, sur la Luette, in Révue Médicale, July, 1823.

“CHOLLET, Des Moyens Chirurgicaux appliqués au Traitement de l'Amydalité. Paris, 1827.

“124. *Quinsy*, or Inflammation of one or both Tonsils (*Angilla Tonsillar*is, Lat.; *Kehlsucht*, Germ.; *Esquinancie*, Fr.) when accompanied by much swelling, interferes with swallowing and breathing; the patients speak through the nose, and are much troubled by the phlegm which collects in the throat. Not unfrequently there is singing and pain in the ears, from closure of the Eustachian tubes. The swollen tonsils are felt beneath the jaw, and seen distinctly when the patient's mouth is opened, and the tongue thrust down; and the swelling is often so great as to block up completely the passages of the throat. More or less active febrile symptoms are present, according to the degree of the inflammation.

“125. This inflammation originates most commonly from cold in delicate persons, unused to exposure to the air, also from any severe irritation of the throat, from spreading of the inflammation from other parts, from the venereal disease, from eruptions of the skin, and so on.

“126. In most cases the inflammation of the tonsils is *resolved*; not unfrequently it runs into *suppuration*, less indeed as a consequence of its own activity than of a peculiar disposition which inflammations of the throat, in many persons, have to pass into suppuration, more especially if former attacks of the kind have terminated in a similar manner. This may be looked for when the inflammation of the throat has existed for several days with uniform severity, when the sensation of pressure in the throat becomes greater, and much mucus is collected therein. The passing into *hardening* is never observed in active, rapid inflammation of the throat, but when it creeps on slowly and recurs frequently, the consequence of which is a *growth* (or hypertrophy) of the parenchyma of the tonsil gland, rather than an actual hardening. The passage into *gangrene* is always dependant on a malignant character of the accompanying fever, and is extremely dangerous.

“ [Abscess in the tonsil having once occurred, is very commonly again and again produced whenever inflammation attacks the gland, and so quickly that any attempt to prevent its formation is useless, the inflammation rushing, as it were, headlong into suppuration. During its course the agony and inconvenience are very great; but, on the bursting or opening of the abscess, the symptoms as suddenly cease.

“ Dr. Tweedie says, that although enlargement of the tonsils results from repeated attacks of inflammation, ‘ it is, however, in some instances congenital, and occasionally appears to be hereditary, and in such individuals it is often associated with traces of the strumous diathesis. The enlargement generally exists without induration of the tonsil, more especially when it occurs in young persons: when it arises as a consequence of inflammation, and more particularly in elderly people, the enlargement is generally accompanied by induration.’ (p. 185).

“ Gangrene of the tonsils is very rare, and in the two cases, both fatal, mentioned by Guersent, it was only on more important disease. In the first case the tonsils appeared to be attacked simply with severe inflammation, and were fortunately relieved by antiphlogistic treatment; but subsequently they became livid, produced a secretion resembling wine lees, and very offensive, and on the seventeenth day the patient died. On examination, besides softening and black or dark-greyish disorganization of the tonsils and soft palate, the same change was found in a portion of the right lung. In the second case the tonsils were at first but slightly inflamed; on the third or fourth day, however, they assumed a brownish colour, and a very offensive smell, and when cut into were not painful. The patient gradually sunk with vomiting and severe gastro-enteritis, but unaccompanied with much febrile excitement. After death the mucous membrane of the stomach and part of the small intestines were bright red, and in the former covered with a white, soft, elastic false membrane. (p. 134).]

“ 127. The *treatment* differs according to the activity of the inflammation and the accompanying fever. In slight inflammation mild diaphoretics are of service, as elder and lime-flower tea, solution of acetate of ammonia, hydrochlorate of ammonia, and so on; in the more active degree, bleeding, application of leeches, nitre in emulsion, calomel. For bathing the inflamed part soothing decoctions are used, in form of gargles or injections, which latter more readily clear away the mucus, and do not produce any straining of the parts. The inhaling of warm soothing vapours also serves the same purpose.

“ [Dr. Watson says the only gargle he considers ‘ admissible in the commencement of the malady, is a gargle of warm milk and water. * * * But far better than anything else, as a local application to the inflamed fauces, is the steam of hot water; whether we are hoping for resolution of the inflammation, or whether we desire to promote and hasten the process of suppuration already begun. * * * The most convenient and effectual inhaler is that of Hercy, from which a large

volume of steam is carried inwards against the fauces by the mere natural breathings of the patient.' (p. 790).

"128. In great swelling of the tonsils *scarifications* are specially useful; these are made with the pallet-lancet, or with a common bistoury, the edge of which is guarded nearly to the point, or with the *pharyngotome*. The patient is to be placed so that the light may fall into his mouth, which is kept open by thrusting a piece of cork between the molar teeth; the tongue is pressed down with a spatula, and shallow cuts are made with the instrument just mentioned into the swollen tonsils. The bleeding is to be promoted by soothing luke-warm gargles.

"[In scarifying the tonsils there is danger of wounding the carotid artery, or some branch, which will continue bleeding, and cause serious alarm. Watson mentions in his Lectures a case of fatal bleeding from wound of the internal carotid artery:—'Only a few years ago, in Ireland, it was struck by a surgeon, while scarifying a gentleman's tonsil, and he died in three minutes.' In another case, which occurred under Watson's own care in 1838, in which the tonsil glands, during convalescence from scarlet fever, having become so enlarged as to impede breathing considerably, 'the surgeon in attendance punctured the tonsils. The next day a good deal of hæmorrhage took place; and this recurred several times, to a considerable and even alarming amount. When the clots that formed were wiped away with a sponge, the blood could be seen welling out in a little stream, with a pulsating motion, from a small incision in the left tonsil. The hæmorrhage was ultimately, after much trouble and anxiety, arrested, by applying a pencil of lunar caustic freely within the bleeding orifice.' (p. 792).

"I believe, in such a case, the use of the actual cautery would be preferable to any other remedy, and should certainly employ it if opportunity occurred.—J. F. S.]

"129. When the inflammation subsides, but the swelling still continues, astringent remedies, as the *liquor ammoniæ acetatis*, hydrochlorate of ammonia, sage, vinegar, and so on, are to be added gradually to the gargles, by the proper employment of which the disposition of the parts to chronic inflammation is prevented.

"130. When an *abscess* forms in the tonsil, which can be distinguished by the above-noticed signs (par. 126), by fluctuation on touching the tonsil with the finger, and often by the pus itself shewing through, and it does not break of itself under the use of softening gargles, great danger of suffocation, or burrowing of the pus, is to be feared; and it must then be opened with a guarded bistoury, or the pharyngotome, used as in scarification of the tonsils. Irritation of the throat, and straining by vomiting, often effect the bursting of the abscess. After the pus has been discharged, soothing gargles with honey are to be frequently used, and commonly produce a speedy cure. In rare cases the abscess penetrates externally beneath the jaw, and then must be treated as common abscess.

"[In reference to the spontaneous bursting of the abscess in the

tonsil, which generally occurs between the pillars of the fauces, Allan Burns observes : ‘ But Dr. Brown has informed me that in two places it burst through the *velum palati*. In both these cases, the sore formed very much resembled a venereal ulcer, and, without great care in tracing the origin and progress of the disease, would have been mistaken for a venereal affection. I may also mention,’ he continues, ‘ that where the chief prominence in abscess of the tonsil is seen, not between the pillars of the fauces, but on the forepart of the velum, it is not to be expected that the tumour will point as in external suppurations. On the contrary, the pus will continue long deep-seated, and, were the surgeon to delay, in the expectation that it would become more superficial, the patient, before this event took place, would be suffocated. So soon, therefore, as the difficulty of breathing renders it necessary, an opening is to be made in the abscess, and that even where the matter is still deep-seated ; but fluctuation, generally obscure, indeed, must be felt, before we presume to thrust an instrument into the tumour. If this point be not fully ascertained, a polypus may be mistaken for an abscess of the tonsil.’ (p. 255).

“ Burns considers that the bursting of a tonsillar abscess is attended with much danger. He says : ‘ Whenever the abscess bursts, the mouth and fauces are filled by a gush of matter, every obstruction to the free entrance of the air is suddenly removed, the patient fetches an involuntary and deep inspiration, air and matter rush together into the trachea, and death, from suffocation, is almost the immediate consequence.’ And, in support of this statement, he mentions the case of a strong, active young man who thus lost his life : ‘ He had been complaining for a few days of a sore throat, for which he had consulted his surgeon, who had employed the usual remedies. The inflammation terminated in suppuration ; the abscess enlarged, till at length the tumour occupied almost entirely the fauces ; yet, ten minutes before his death, he was walking about the house, restless indeed, anxious, and gasping for breath. The bursting of the abscess and death followed each other so rapidly, that no measures could be taken to prevent the latter event. The cause of death was not conjectured in this instance. The body was examined, and the trachea found deluged with purulent matter. To prevent a similar accident, it would be advisable, where the tumour is large, and the difficulty of breathing great, to puncture the abscess as we would do a hydrocele. Were the matter evacuated through a canula, there would be no risk of its finding its way into the windpipe, and if the stilet were made to project only a little beyond the canula, the trocar may be as safely used as any other instrument.’ (pp. 257–8).

“ In most cases of tonsillar abscess, the effort of vomiting excited by emetics is generally sufficient to burst the walls and discharge the pus ; but, if this treatment be ineffectual, and the patient’s breathing be much interfered with, it is better to open the abscess, for which Allan Burns gives the following directions : ‘ One who is familiar with the parts in connexion with the tonsil will, in entering the knife into an abscess here, take care not to direct its point in the line of the

angle of the jaw ; for, he is well aware, that if he do this, he may injure a large artery. He will push the instrument into the front of the cyst and carry it directly backwards, as if he intended to cut off a segment of the tumour ; if he follow this course, and transfix the abscess, the worst which can happen will be injury of the back part of the pharynx, a trivial accident when compared with the effects resulting from opening a large blood-vessel.' (p. 257).

"I think, however, that a gum-fleam is the most convenient instrument ; its edge should be rested against the enlarged gland, as near the mesial line of the body as possible, to penetrate the swelling, and then moved vertically and gently up and down, the handle of the instrument being held like a pen, till the abscess is penetrated, which in general is done quickly, and immediately the pus appears the fleam should be withdrawn. It is recommended, very properly, that the incision or puncture should be made directly backwards, or from without, inwards and backwards, to avoid puncturing the internal carotid artery, which might be easily done if the knife or fleam were thrust outwards.

"The student is always very properly exhorted to puncture tonsillar abscess with great caution, for fear of wounding the carotid artery. But, although this operation must be often carelessly and clumsily enough performed, yet dangerous bleeding is not so frequent as might be expected ; and I have only been able to collect the following authentic accounts :—

"Portal mentions a case in which, in performing this operation with a pharyngotome, 'a dexterous surgeon of Montpellier had the misfortune to open a large artery, and see the patient perish of so severe a hæmorrhage that nothing could arrest it' (p. 509). Allan Burns also says : 'In this country (Scotland), I have been informed that a surgeon, in opening a tonsillitic abscess, actually did plunge the knife into the carotid. I need hardly add, that he lost his patient before he could suppress the bleeding' (p. 256). My late colleague, Tyrrel, was accustomed to mention, in his Surgical Lectures, a case to which he was fetched by a practitioner, who, having punctured an abscess in the tonsil gland, the wound was immediately followed by severe bleeding, and the patient was dead before he could reach the house. Sir Benjamin Brodie informs me that he is cognizant of two cases in which death from bleeding ensued after the puncture of tonsillar abscess.

"From the puncture of an immature tonsillar abscess, alarming hæmorrhage may occur, without, however, destroying life ; for the following instance of which I am indebted to my friend Lawrence :—

"CASE.—'In a gentleman labouring under *cynanche tonsillaris*, a premature puncture was made, with the expectation of evacuating matter. A most profuse bleeding ensued, which stopped from the occurrence of fainting, and did not recur. It, however, not only seriously alarmed the patient and those around him, but also the gentleman who made the puncture. A long time elapsed before the patient recovered his strength.']

Gangrene is thus briefly discussed, as also the chronic hardening of the tonsils, and the occasional presence of calculous bodies in them; and finally the extirpation of the enlarged tonsil, and the very various methods which have been recommended:

“133. If the swelling of the hardened tonsils be so great that breathing and swallowing become very difficult, their partial extirpation is necessary. If the swelling be not very great, two or three transverse, but not very deep, incisions are sufficient to produce their diminution in the course of a few days. The removal is best effected by a narrow, slightly curved, blunt-pointed or button-ended bistoury, or with a narrow, straight, button-ended scalpel. The patient should be placed on a seat opposite the light, his head resting on the bosom of one assistant, and a little inclined forwards, and his mouth kept open by a piece of cork placed between the hind molar teeth, whilst another assistant keeps down the tongue with a spatula. The operator fixes a double hook, or Museux's hook forceps, which is preferable, in the swollen tonsil, holds the forceps with one hand, and manages the knife with the other, so as to divide as much as is necessary of the tonsil at one stroke from beneath upwards. (The hook or forceps are to be used with the left, and the knife with the right hand, if the left tonsil is to be removed; but the contrary, if the right). If the tonsil still remains partially attached, it must be cut off by a second stroke of the knife, or with Cooper's scissors.

“In unsteady patients Dessault's kiotome is often preferable, which, when the patient is seated as above, the mouth open, and the hook, fixed in the tonsil, is so introduced with its edge retracted, that the tonsil comes against the slit part of the sheath, and the projecting part is cut off by the protrusion of the knife. The introduction of the hook often produces severe tickling of the throat, suffocation, and so on, in order to avoid which the division may be made without previous introduction of the hook. If, on account of its size, the whole tonsil cannot be received into the curve of the kiotome, a part of it must be removed by two oblique cuts meeting at an angle; or cross cuts are to be made with the kiotome, first at the upper part, and next at the lower third of the tonsil; the isolated part is then to be taken into the curve of the instrument, and the two transverse connected by a third longitudinal incision. The deep cleft thus formed falls together in the course of five or six days. Fahnestock's *tonsillitome*, with the alterations of Velpeau and Ricord, is preferable to Dessault's kiotome. This instrument closed, that is, with the annular blades covering each other, and with the piercer retracted, is placed over the tonsil, which, projecting through the opening, is to be thrust through with the piercer; the moveable stem is then pushed forward upon the immovable one, and the latter, at the same time, drawn back, so that the tonsil is taken off by the rings, of which the inner margins have each a cutting edge. Tying the tonsils is not to be preferred to their removal by the knife; but their destruction

by caustic is to be rejected. Only in not very great swelling of the tonsils, can their diminution be effected by the repeated application of lunar caustic sufficiently to produce a superficial slough.

“ The removal of the hardened tonsils has been performed from the earliest time by *cutting*, by *tearing out*, by *tying*, and by *destroying with caustic*. Celsus advised taking hold of the tonsil with a hook, and cutting off the hardened part with a knife. In this manner the operation has been performed with little variation. According to Louis, the cut should be made from below upwards; according to Richter, from above downwards, and the imperfectly divided piece is to be removed with scissors; according to Moscati the cuts are to be made in various ways, by splitting the tonsil from above downwards and sideways, by introducing charpie, by removing it piecemeal, and by cauterizing the surface of the wound with nitrate of silver.

“ For holding the tonsil, a single or double hook is employed, Caque's hook, Muzeux's hook forceps, Wasserfuhr's forceps, with thick, blunt hooks, so that it may be more easily removed in case of vomiting. For the cutting, a narrow, button-ended, curved, or straight scalpel, special knives of Paulus Ægineta, of Caque, of Ben. Bell, of Boyer, Dessault's kiotome; the scissors of Solingen, Percy, Levret; the instrument of Rivieri, and of J. Cloquet, with two branches, which cross, and each of which has an edge at its extremity.

Tearing out the tonsils was performed by Celsus with the fingers; by Fabricius ab Aquapendente with the hook or forceps.

Tying the tonsils, mentioned so early as by Guillemau, was performed by Sharp with silver wire or catgut; by Cheselden the loop was applied with the finger, and fastened with an eyed probe; swellings with a broader base were tied on the side with a double thread introduced by a needle having an eye near the point; by Bibrach with a silver wire, by means of Levret's double cylinder; by Siebold with a loop pushed on upon a pair of forceps, the ligature having been slipped on to them by an assistant; Bell introduced through the nose a loop which, by means of the finger, was carried over the tonsil and tied with a polypus cylinder introduced through the nose; by Chevalier a double thread was drawn through the base of the tonsil, after Cheselden's method, and tied with a ring-shaped knot-closer. Hard also invented a tying instrument for the same purpose.

“ Cauterization of the tonsil with red hot iron, or with caustic, after the manner of Severinus and Wieseman.

“ [Else objected to the excision of the tonsils, especially in children, on account of the troublesome and dangerous hæmorrhage: neither was he favourable to tearing them away with the forceps, nor to destroying them with caustic, but preferred Cheselden's apparatus, consisting of a tonsil probe, needle, iron, and *speculum oris*, or a piece of cork. If the base of the swelling be narrow, a thread can be readily carried round with the probe; but if it be broad, it will be requisite to thrust the needle, armed with a double thread, one white and the other black, to prevent confusion, through the base, from without inwards, and, when the eye of the needle appears behind the tonsil,

the threads are to be taken hold of, the needle withdrawn, and the corresponding threads tied.

“ The instrument for amputating the tonsils, invented by Physick of Philadelphia, consists of an oval iron loop, of two plates, rather larger than the ordinary size of the tonsils, and attached to a long stem, upon which rests a sliding rod, terminating in a knife of hexagonal form. The tonsil is received within the ring, and the knife being then thrust forward, cuts it off as it traverses the loop. He also uses a pair of forceps, with lunated extremities, and their opening faces toothed, to draw the tonsil more firmly through the loop. I do not know whether this is Physick’s guillotine instrument, which has been further improved by Mitchell, as I have not seen either. Within the last eighteen months, Simpson, instrument maker, of Westminster, has adapted Thorbern’s staphylotome (which he has much simplified) to amputation of the tonsil, by giving the sliding knife an oblique cutting edge, like the guillotine knife, and the tonsil, being drawn through the aperture with a double hook, is readily cut off. Each side of the throat requires its own instrument, on account of the obliquity of the knife-edge.

“ In the United States some surgeons prefer scissors to the knife and others the guillotine instrument of Physick, with or without modification. The best scissors are those of Dr. Smith of Baltimore, the blades of which are curved on the flat, and bent like a hawk-bill towards each other, so that the points cross when the instrument is shut. Two small steel points are, in addition, attached to the side of each blade, so as to catch the portion excised, and prevent its falling into the glottis.

“ Gibson of Philadelphia, with a view of getting rid of the numerous instruments formerly used for the removal of enlarged tonsil, has invented an instrument which at once keeps down the tongue, holds the gland firmly, and separates it, nearly at the same moment. “ It consists of a pair of forceps nine inches long, the eighth of an inch thick, half an inch broad when shut, with extremities an inch and a half long, slightly serrated, and somewhat curved, including, when closed, an oval space a quarter of an inch wide, and terminating at the other extremity, in handles which stand off obliquely from the shafts of the instrument. A knife or blade, the length and breadth of the forceps, rounded on its cutting edge, and having a button placed perpendicularly to its axis on the opposite extremity, works backwards and forwards, by means of a groove, to the extent of an inch and upwards, between the blades of the forceps, to one of which it is secured by screws. A sheath upon each end of the forceps, to keep the knife from starting off the moment it touches the tumour, completes the instrument.’ (p. 27). ‘ It is to be passed into the mouth with the blades closed, and resting flat on the tongue, which it presses. The instrument is turned edgewise, still resting on the tongue, its blades expanded, placed fairly around and completely behind the tumour, which is then seized and firmly held, while the thumb, resting on the button-like extremity of the knife, pushes it

forwards, and instantly separates the enlarged tonsil, which is immediately brought away in the grasp of the forceps.' (p. 27).

"The ordinary practice now is to remove the tonsil by cutting through with a knife, of which the blade is guarded to within an inch of its tip, the gland being drawn inwards towards the mesial line with a tenaculum or double hook. There is soreness for a few days, but granulations soon form, and the wounded part heals.—J. F. S.]

"134. The bleeding after this operation is usually stopped by frequent gargling with cold water and vinegar; or charpie dipped in some astringent wash is applied with dressing-forceps to the bleeding part. In cases of necessity the red hot iron must be applied. During the inflammatory and suppurative periods, soothing, and subsequently astringent gargles, with borax and so on, should be applied to the cut surface. If the suppurating surface assumes a luxuriant appearance, stronger astringents, even lunar caustic and the hot iron, must be used.

"[Of wound of the carotid artery in removing the tonsil gland, I have not met with, nor heard of a single instance.

"Lawrence writes: 'I have removed enlarged tonsils very frequently, the loss of blood, in the majority of cases, not exceeding a tea-spoonful. It would, I believe, always be so, if the parts are in a perfectly quiet state. I once performed the excision in a gentleman from the country, who was obliged to leave London immediately, where there was a state of active congestion in the fauces; the bleeding was considerable, but not alarming.'

"But their removal is sometimes attended with very fearful hæmorrhage. My friend Callaway informs me, that he has 'seen sometimes considerable, and, in one case where he had removed the tonsil by the knife, alarming hæmorrhage in a boy of seven years of age, which required stimuli, &c., to recover him from the fainting which followed.' I have to thank my friend Shaw for the following:

"CASE.—A man aged forty years was deaf in the left ear, and the tonsil on that side being enlarged, it was excised with the guillotine on Saturday. No bleeding of consequence followed, the gland being hard and light-coloured, as if of old standing. On Monday he complained of sore throat, and the incised surface appeared as if a superficial slough were about to form. On the afternoon of Tuesday bleeding commenced in the lower part of the cut surface, where ulceration had taken place adjoining the slough. An oozing of blood, varying in quantity, continued, in spite of repeated attempts to check it with styptics, till the afternoon of Thursday, when he was so much exhausted that the carotid artery was tied. The bleeding now ceased completely; the wound rapidly closed, and the ligature came away on the twelfth day; in a short time after which he was discharged cured.

"This case seems to bear a close resemblance to that of Lawrence's; and both may, perhaps, be explained on the presumption that the small vessels of the enlarged tonsil gland were unable either to contract or retract, in consequence of the adhesive matter with

which the cellular tissue of the gland was filled, and by which its enlargement was caused, preventing their closure.—J. S. F.]”

To those who want a well-arranged and comprehensive system of surgery, we would certainly recommend this work of Chelius and Mr. South.

A practical Treatise on the special Diseases of the Skin. Enriched with Cases, and numerous Notes, collected from the best Authors, and the Clinique at the Hôpital St. Louis. By C. M. GIBERT, Physician to the Hôpital St. Louis, &c. Translated from the French by EDGAR SHEPPARD, M. R. C. S. Small 8vo. pp. 358.

THE above Treatise exhibits M. Gibert in the character of a very learned physician, the “General Considerations” on the diseases of the skin containing as good a *resumé* of the literature of the subject as we have ever read, but we cannot say that on the whole we like the work as well as that of Cazenave, translated by Mr. Burgess, of which we spoke highly at the time of its publication. From frequent perusal and reference to it since, we have had the opinion then expressed, of its being one of the very best books on the diseases of the skin, only the more confirmed. With respect to M. Gibert’s mode of treating his subject, we think his chief fault lies in a manner too discursive and rambling, and in his being too ready to exalt himself at the expense of some professional brother. His very learning at times detracts from the clearness of his description, by making him run through a multitude of names, many of them obsolete, before coming to the modern term. Let us take the following example:

“HERPES.

“The *dartres* (*herpetes*), says the learned Lorry, are very difficult to treat, often offering great resistance to the efforts of the physician who undertakes them; neither do they present less difficulty and embarrassment to him who would write their history. In fact the greatest number of cutaneous ulcerations alluded to under various names in the writings of *Celsus*, *Alexander of Trallianum*, and Arabian authors, being liable to be attributed (and really being so by many writers), to the various species of the genus *herpes*, it becomes very difficult to assign exact limits to diseases so approximated to each other: ‘*Durum et difficile tractanti malum herpetes offerunt nec facilius de eis disserenti, cum ad varias herpetum species refferri possint et reverà relata fuerint omnia ferè ulcerum cutaneorum nomina quæ apud Celsum, Trallianum, Arabes descripta reperiuntur, limites morbis conterminis assignare operosum est.*’—(*Tract. de Morb. Cutan.*)

“A few citations will serve to justify the assertion of Lorry. Hippocrates in his *Epidemics* (Ep. iii. sect. 3), speaks of *Herpes* as a slight critical exanthema; and in his *Phorhetics* (sect. 2), he classes it among spreading ulcers. Galen, in his *Commentaries on the Aphorism* 55 (sect. 6), says, that *herpetic diseases* (εἰρηής, εἰρηήτες, from ἐρπεῖν, to creep), are superficial ulcerations which eat away the surface of the skin. Elsewhere, however (*Meth. Med.*, lib. 4), he observes that *herpes* is not always an ulcer. The same author admits three species: *herpes miliaris*, *herpes phlyctenodes*, and *herpes εστιομένος*, *depascens*, *la dartre rongeante*. Rhazes and Avicenna admit, with Paulus Ægineta, two species: *herpes miliaris* and *herpes corrosivus*. More recently physicians have extended the word *herpes* (which is translated in French by the word *dartre*), to nearly all cutaneous diseases unaccompanied by fever, either acute or chronic, but especially the latter; so that even in this century Professor Alibert thought proper to make use of this denomination, generally admitted to designate the greater number of skin diseases, which he afterwards distinguished from each other by particular names, superadded to the generic term. Thus he admitted in his first classification, *dartres érythémöides*, *Phlycténöides*, *Squameuses*, &c., and still, in the present day, the group of *Dermatoses dartreuses* occupies an important place in his new classification. Willan and Bateman, wishing to do away with the confusion which existed in consequence of the employment of a denomination so vague and general, preserving for the greatest number of cutaneous diseases the names employed by ancient authors, singularly restricted the signification of the word *herpes*, and only applied it to a special vesicular affection, the march of which is commonly very regular, and the duration very short; so that in their classification the word *herpes* is not synonymous with our vulgar word *dartre*, which is quite banished from scientific language.

“We will designate, then, with these authors, by the name of *herpes*, a cutaneous affection, very frequently acute, characterized by the eruption of small vesicles united in groups, which successively enlarge, become opaque, and terminate in crusts more or less delicate, or even dry up, without forming decided squamæ, in a space of time varying from ten to fifteen or twenty days. It is commonly accompanied by a feeling of heat and itching, sometimes even of a deep pain, in the affected parts, which lasts in some cases even after the disappearance of the eruption. By means of this precise definition we escape from the inextricable embarrassment in which Lorry, and all writers after him, found themselves. Our word *herpes* can no more be applied to anything but a distinct and well characterized kind of cutaneous diseases.”—p. 113.

And now let us contrast it with M. Cazenave's clear and sensible description of the same form of disease:

“HERPES. SYN.—*Dartre*; *Olophlyctide*; Tetter.

“The term *herpes* was employed for a long period in as vague a sense as that of *dartre*. It was applied to many eruptions of a per-

fectly different nature, until at length Willan adopted it exclusively for the following distinct genus.

This genus is characterized by an eruption of vesicles, forming in groups upon an inflamed base, perfectly circumscribed, and separated from each other by intervals of sound skin. The form and seat of these groups constitute several well-marked varieties, which may be described separately. The different species of herpes usually follow an acute course. They generally last for a week, but in some instances they may be prolonged to two or three weeks. There are, nevertheless, cases in which the disease may continue for months. Herpes is rarely, if ever, accompanied with dangerous symptoms. The most usual phenomena are, slight indisposition, depression, anorexia, and rarely fever. In some few instances, herpes is produced by some direct agent, but in by far the majority of cases it manifests itself without any appreciable cause; and even when there is a direct evident cause, such as cold air, which usually occasions *herpes labialis*, there is at the same time a peculiar state of economy, of which the eruption is symptomatic. The formation of vesicles in groups upon an inflamed base, is always sufficient to distinguish herpes from other vesicular affections. It is, generally speaking, a mild disease; pursues a regular course, and requires but simple treatment. Moreover, herpes may exist simultaneously with other diseases, either of the skin or of some internal organ."—Page 81.

We must, however, do M. Gibert justice as far as believing that to the advanced student, already conversant with the diseases of the skin, the perusal of his learned expositions of them will prove highly attractive, and also that many very useful modes of treatment, not met with in other works, would be found in this treatise.

A Physiological Essay on the Thymus Gland. By JOHN SIMON, F.R.S., Fellow of the Royal College of Surgeons; Demonstrator of Anatomy in King's College, London, and Assistant Surgeon to the King's College Hospital.

WE believe it is generally known to our readers, that the late Sir Astley Cooper, who during his life attained such a distinguished position, both as a practical surgeon and a scientific physiologist, bequeathed, at his death, a large sum of money for the institution of a triennial prize of £300, to be given, under certain conditions, for the encouragement of original investigations in physiology and surgery. The present essay was honoured by the first award of this munificent prize, the appointed judges being the physicians and

surgeons of Guy's Hospital, and consequently presents itself to our notice under circumstances of more than usual interest.

The plan which the author has adopted is judicious; he commences his essay with an historical introduction, in which he traces the progress of research, and reviews the labours of others in the physiology of the thymus, from its first mention by Rufus Ephesius in the times of Trajan, down to the present day.

Many of the theories noticed in this section are mere speculations; whilst others, though plausible and interesting, are refuted by unanswerable arguments, founded on facts which are adduced in the subsequent portion of the work.

The second chapter treats of the development of the thymus in structure and in size; the author declining the discussion of its superficial anatomy as an exhausted topic.

The first appearance and early growth of the thymus being points of paramount importance, Mr. Simon states that he has taken great pains to arrive at correct conclusions on this part of his subject. His investigations have been chiefly conducted, with the aid of the microscope, on the embryos of swine and oxen; but he informs us that he has never, in other animals, seen anything which would induce him to believe that the process of development is in any respect peculiar to those, from which he has more particularly described it.

The earliest form in which he has discovered it has been that

“Of a simple tube, lying in the animals I have mentioned, along the carotid vessels, and surrounded by the faint indications of nascent areolar tissue. The contents of the tube are seen (with a magnifying power of 400 diameters), to be granular and dotted, but do not as yet shew distinct corpuscles. Its figure is defined by the abrupt outline of the membrane, which constitutes its wall, an exquisitely delicate, transparent, homogeneous tunic, presenting, at regular intervals, slight elongated thickenings of its substance.”

Though he has not succeeded in demonstrating unequivocally an earlier stage of its development, he believes that the first rudiment of the gland would be found in a series of primordial cells, arranged in a line along the cervical vessels and pericardium, and coalescing on each side of the neck, to form the tube he has described.

The second stage in the process is in analogy with the mode of growth attributed to true glands.

“ The tube bulges at certain points of its length on one side or the other, and gives origin to diverticula or follicles, which maintain their connexion with its cavity. These follicles have precisely the same contexture as the parent tube, of which, in fact, they are mere evolutions ; they are bounded by the same delicate tissue as constitute its wall ; they contain too the same material, in which may now be seen the peculiar dotted corpuscles hereafter to be described.”

The third distinct step of advancing development is made by the commencement of ramification in the follicles.

“ By the extension of this process of follicular growth to all portions of the gland successively, by the repetition on each new crop of follicles of the same acts of development and ramification, and by the continued molecular increase which pervades the entire substance uniformly, as the means of interstitial growth, the thymus attains the bulk and the complexity of texture which distinguish it in the mature foetus. There is no change whatever in the nature of the phenomena ; the later steps are exact iterations of the first ; the type of development is established by the earliest bulging of the primary tube ; by the first vesicle that buds from its side. That type essentially consists in the *lateral growth of branching diverticula from a central tubular axis*, and as the extremities of these diverticula, like the follicle whence they first spring, tend always to assume the vesicular shape, and to represent large segments of spheres, the permanent structure of the gland, no less than its mode of development, may be named *tubulo-vesicular*.”

These descriptions are accompanied with numerous plans or diagrams illustrative of the text.

The consideration of the development of size, leads the author to determine the period at which the thymus is largest. The circumstance of the gland being always present in the foetus, and always either absent or diminutive in the adult, has led superficial observers to the too hasty conclusion, that it must have attained its greatest bulk, and have exercised its greatest activity, during foetal life ; that it is in fact an organ subservient, as regards use, to the peculiarities of intra-uterine existence. This conclusion Mr. Simon rejects as untenable.

“ Nothing,” he observes, “ in the history of the thymus can be esteemed of higher moment, than the verdict to be given on the accuracy of this opinion ; for if it can be shewn that the principal development of the gland is at a period considerably later than birth, it is obvious that we shall no longer have to search among the peculiarities of foetal organization and foetal life, for the conditions of its utility. Its function must assuredly be most energetic at the time when its size is largest ; in it, as in every other organ of the living body, activity of operation and perfection of use must coincide with the maximum development of the operating structure. Is the thy-

mus largest during embrionic life? Haugsted's careful investigations enable us most positively to reply in the negative to this question. The thymus can with no more propriety be referred to the needs and uses of foetal life, than the mammæ of the female can be considered subservient to the period of utero-gestation; breasts and thymus—this in the embryo, those in the mother—both alike grow during pregnancy, but in each instance the phenomenon of development is only in anticipation of a later necessity; only in preparing to discharge a function, which in neither case establishes itself till after birth."

The results of sixty-four experiments on different animals, and under various circumstances, are given in a tabular form, from which it appears that the increase of the thymus after birth is a general fact, though it is difficult to fix precisely the period at which it reaches its maximum growth and begins to decline. The rough results of the examinations of the human subject seem to be the following:

"First, during the period next succeeding birth, the activity of the thymus is remarkable; it increases considerably in size; becomes turgid with secretion, and its specific gravity is lowered by the greater fluidity of its contents. This first growth is far out of ratio to the general increase of the body, but gradually subsides into a stage of less activity, which merely suffices to maintain the proportion so acquired.

"Secondly. During several months it continues to increase at a diminished rate, and merely in proportion to the general growth of the body; its further enlargement ceases about two years after birth.

"Thirdly. From this time, during a very variable number of years, it remains stationary, and supposing the individual to be adequately nourished, gradually assumes the structure of fat. This stage, in which the bulk remains unaltered, but the texture changes so curiously, extends perhaps, in the largest number of healthy individuals, to the eighth, ninth, tenth, eleventh, or eventwelfth year of life, but it cannot be restricted even to these loose limits, for some years later the gland will often appear to have undergone no diminution in size. The intimate nature of its interesting structural change will be explained in connexion with the general morphology of the gland.

"Fourthly. The duration of its decay, and the epoch of its entire vanishing, are still more uncertain. About puberty it seems, in most cases, to suffer its chief loss of substance, and to be reduced to a vestigiary form; but still for many years its flat and emaciated lobes may often be dissected from the pericardium, and shewn as a connected body. Distinct remnants of the gland may generally be exhibited in subjects of from twenty to twenty-five years of age; but beyond the latter time it is unusual to distinguish any positive traces of its existence amid the areolar tissue of the mediastinum. There are exceptions to this rule. I have sometimes discerned faint

remnants of its form up to thirty years old, and Meckel and Haugsted quote various instances of its alleged persistence to a much later period."

The third chapter treats of the mature structure of the gland, including the arrangement of its cavity; the texture of the walls of that cavity; the nature of its contents; and its means of vascular and nervous organization. Each of these subjects is carefully and minutely discussed, and by the aid of chemical analysis and microscopical observation, the author has given us the most complete description of the mature gland and its secretion with which we are acquainted.

To the comparative anatomy of the thymus, which occupies the fourth chapter, Mr. Simon has evidently devoted great labour; he gives the dissection of the gland in several genera of each of the orders of mammalia, in aves, and in reptilia; the descriptions being illustrated by numerous well executed wood engravings. The result of these dissections has been the discovery, that the thymus gland belongs, without exception, to all animals breathing by lungs, and to no others; in his own words:

"*The presence of the gland is co-extensive with pulmonary respiration. Its shape and position are variable and unimportant. Its size and duration are, generally speaking, in proportion to the habitual or periodical inactivity of the animal. Where it remains as a persistent organ, it is usually but one of several means for the accumulation of nutritive material; its continuance, under such circumstances, is generally accompanied, though in some instances superseded, by a peculiar accessory contrivance, the fat-body.*"

He adds that, after repeated and careful search in above twenty genera of fishes, he has been unable to discover any signs of a thymus.

With the preceding comparative investigation, the author concludes the descriptive portion of his essay. He next proceeds to consider the morphology of the thymus; compares and contrasts its physiological history with that of other bodies of obscure function, and with that of the true glands; and expresses his conviction, that the thymus, the spleen, the supra-renal capsules, and the thyroid body, constitute a strictly natural family, rightly termed *glands without ducts*; and that these organs, in all the elements of their composition, admit of detailed comparison with the so called *true glands* of the body, forming a series parallel with their's.

In the last chapter Mr. Simon reviews and combines the leading facts set forth in the earlier portions of his work;

and from the evidence they furnish, and the analogies they suggest, he arrives at the following conclusion :

“ *That the thymus gland fulfils its use as a sinking-fund of nourishment in the service of respiration.* For, whereas the operations of the gland are essentially economical, and its loosely combined products are ever held at the call of the system ; whereas its presence is distinctly conterminous with the highest form of respiratory function ; whereas its actions obviously pertain to periods having a common physiological peculiarity ; how can we avoid identifying its use with the exigencies of these periods and of that function ? The nature of those exigencies has already been stated, and I can conceive no manner in which the functions of the thymus may be applied to meet them, other than this, that what the gland sequesters from the circulation, does, in gradually reverting thither, accomplish those chemical purposes in respect of respiration and temperature, which, under other circumstances, are fulfilled by the effete products of active animal tissues. * * *

“ On this theory, every fact that has come to my knowledge in the history of the thymus, admits of ready explanation ; the larger anatomy of the gland, and its minute structure ; the chemistry of its products ; its morphetical analogies ; the laws regulating its presence, and assigning its abrupt termination ; the phenomena of its development and decrease ; its invariable augmentation after birth ; its occasional persistence through life ; the evident proportioning of its functions to special and individual circumstances of nutrition and muscular activity.

“ And, while the theory here defended serves to combine, harmonize, and explain the various facts developed in the preceding pages, it seems no less clear that many of these facts are inflexibly opposed to the several other theories previously enumerated. For how can any doctrine of the gland's mechanical use be reconciled with the facts of its varying position, inconstant outward relations, and elaborate organization ? What theory, implying any permanent function, will suit an organ so essentially transient ? Yet how can its office be identified with uterine life, all peculiarities of which it so long outlasts ? Having seen that whatsoever it effects during embryonic life is only preparatory to a marked increase of functional activity after birth ; knowing too, the chemistry of its foetal contents, how can we suppose, even with Meckel and Tiedmann, that it is an organ of vicarious respiration. What theory of its being a conglobate gland, or of its serving as a hydraulic diverticulum, or modifying agent, to streams of lymphatic absorption, will bear the test of anatomical inquiry ? What immediate local purpose can be assigned to a secretion, which only attains its end after re-entering the common circulation ? Or what general aim, barring that here ascribed. For, with what straining of the fancy can we imagine that the whole body is fed by an organ of its own ; or that a material can be secreted from the blood, fitter for nutrition than that mother fluid ? And what possibility remains for the gland's usefulness in nourishment by lac-

tation, when we find it existing in birds and reptiles, no less than in mammalia? Or what service in forming germs for the tissues, or for the blood, can the corpuscles of the thymus, as such, fulfil, when obviously incapable, in their corpuscular form, of traversing the imperforate limitary membrane of the gland?

“As further disproof or discussion of these opinions could do little towards establishing the validity of my own, I here leave them. It remains for the reader to determine whether those views, which I offer in their stead, have stronger claims for reception—whether they better explain the facts of the case—whether they more nearly accord with the known laws of the living economy.”

In concluding this brief notice of Mr. Simon's essay, we cannot avoid expressing the gratification we have experienced in its perusal; and we strongly recommend the work to all who feel an interest in original physiological investigations.

SCIENTIFIC INTELLIGENCE.

Researches on Pneumonia and tubercular Infiltration, from the German of Dr. F. Zehetmayer, by Doctor Francis Battersby.—The microscopical results communicated in the following pages are founded on researches made in 122 cases. In each, an accurate diagnosis, derived partly from the sputa, and partly from the examination of the morbid parts, was arrived at.

At the present day an equal degree of activity animates microscopic anatomy with the other branches of medical science. The microscope (when used in connexion with organic chemistry, applied to the discovery of pathological processes) must lead to surprising conclusions, and we may hope to be able, therewith, to establish true scientific foundations for what has been known for centuries, and to shew that processes, apparently the most different, may be guided by the simple, unalterable laws of development. By microscopic anatomy we are enabled to understand the elementary forms of organic tissue. It becomes, therefore, the province of the inquiring mind to unveil the laws of its various degrees of development, laws which continue unalterable, whether the organism be in a state of health or disease, and to animate with the vivifying breath of practice that which without this could scarcely escape the reproach of being a useless theory or scientific trifling.

Acute *hyperemia* of the lungs, which consists solely in the overfilling of the capillary vessels by the still circulating fluid, exhibits in the sputa nothing but a fluid, amorphous plasma, numerous air bubbles of various magnitudes, and epithelium cells in considerable number, whose large, regular-shaped cell nuclei evince a recent stage, quick change, and rapid production. Hyperemia, which quickly manifests itself, disappears but slowly, and presents during many days the appearances just mentioned. If the hyperemia advance to *stasis*, or that state in which the mass of blood previously oscillating comes to a stand-still, the sputa exhibit a fluid, amorphous plasma in great abundance, recent epithelium cells, small flocculi of crude, coagulated fibrin, and numerous air bubbles, of a very small and, usually, of an equal diameter, placed in regular order, like a string of pearls, and also blood globules, according to the number of which the expectoration presents many different degrees of red coloration. It is on the second, occasionally the fourth or fifth day, that the quantity of the expectorated epithelium cells and air bubbles lessens, and that the flakes of intermingled fibrin are to be found more numerous, thicker, and more extended; to these blood globules are always attached, and the pneumonia presents the

phenomena of perfect hepatization, which are well known to every practical physician. The expectorated and naturally coagulated fibrin exhibits irregular masses and stringy clots, in which no trace of organization can be found; the quantity of the expectorated fibrin affords no indication of the intensity of the inflammatory process, or of the extent of the hepatized portion, for I have often observed extensive hepatization without the expectoration (though examined most carefully by the microscope) presenting a single one of the characteristic indications which at first sight, under other circumstances, leave not the least doubt of the presence of pneumonia.

The certainty of a quick and favourable resolution of the extravasated product of the inflammation is so much the greater, the more sparingly coherent, fibrinous masses appear in the sputa; with the advancement and circumscription of the hepatization the number of blood globules lessens, and here lies the reason of the sputa becoming less coloured, as also in the gradual absorption and alteration of the colouring matter of the blood.

If the extravasated and more or less dry material, be scraped off lungs in the state of red hepatization, we are unable to discover anything, by the microscope, but what is to be seen in the expectorated material.

Between the fifth and sixth day the part, already become less highly coloured, or of a pale grey hue, is found to be moister; with this infiltration commences the resolution of the extravasated product, and along with the resolution proceeds the organization of the fibrin, which quickly runs through the stages of its metamorphosis.

Instead of the crude flakes the microscope brings to light numerous small points, which under the name of granules (*granulationen*) are the first germs of every organic formation, and are always present when more highly organized tissues are produced from the formative material, as well as when organic tissue degenerates into its elementary forms. These granules are at first merely scattered through the fluid plasma, or upon the coagulated fibrin; at a later period they coalesce into larger spheroidal inflammatory corpuscles, which by their conjunction form a cell whose nucleus is then as large as the cell itself. The more matured the sputa are the more extensively do these granules appear in the expectoration. By the gradual wasting of the granules perfect pus cells are formed, which are nearly twice the size of blood globules, and which fall to pieces by the action of acetic acid, and are thereby resolved into many cell nuclei.

The *sputa cocta critica* of the older authors consist, for the most part, of numerous pus cells and granules, which last appear the more sparingly the greater is the number of pus cells present. The formation of true pus is, consequently, to be found in every pneumonia which runs a normal course. The pus is shewn to appear partly in the form of a fluid mass, and partly as cells, but the development of the fibrinous exudation in the pulmonary parenchyma is not prolonged after the forming of cells.

If lungs presenting the characters of the purulent softening of

the extravasated material be incised, and the secretion which flows naturally from them be placed under the microscope, it exhibits an abundance of pus cells with superimposed granules—the number of these last being so much the smaller the nearer the pneumonia approaches to perfect resolution; an amorphous plasma, and recent, separate epithelium cells present to us the final link of the great chain of the pneumonic process.

If the fully softened product be carefully scraped from the pulmonary vesicles, and a delicately cut slice of the parenchyma be placed on the object glass of the microscope, it appears quite unaltered, as also the delicate layer of the structureless membrane which rests upon the subjacent thick elastic tissue. The modifications which the expectorated masses present are uncommonly numerous. It is quite impossible to fix, decisively, the day in which pus cells first appear in the expectoration, for in some they are observed so soon as the second day, and in others not till the ninth.

When the hepatized part does not undergo resolution the extravasated fibrin commonly undergoes a chemical change, and presents infiltrated tubercles, in the form of *casein*, a change which normally occurs after the occurrence of the third septenary cycle, and embraces either the whole hepatized portion or only its central part.

As long as the ill-coloured, whitish, and slightly dry tubercular matter is not moist and softened, it cannot be expectorated, and consequently cannot appear in the sputa. I lay the greater stress on this observation, to ensure against an error which, from mistimed reverence for certain authorities, has misled me, and, I believe, others too.

Many still search the expectorated material with particular care, for those small grains which appear in it in greater or less quantity, and resemble very fine meal dust; they are very friable between the fingers, sticky, and they usually have a cheesy smell.

The presence of these grains has ever been looked on as an important diagnostic sign, and they have been declared, without further proof, to be crude tubercular material. When these dots are examined microscopically, they are found to be round or oval adipose globules, or small bodies surrounded by concentric rings, which, on the application of Tinct. Iodine, present the undoubted characteristics of starch.

It follows that these grains are to be looked on merely as remains of the food lately taken, such as bread, groats, meal, &c., and their supposed semeiotic importance can, in the eyes of a rational physician, be no longer considered as of any value.

If the infiltrated tubercle be scraped out of the pulmonary vesicles it is found to consist of an aggregate of small grains without organic connexion and without vascularity. Coincident with the infiltration and softening of the mass, there appear in the expectoration, along with numerous granules, drops of fat, pus cells, and inflammatory corpuscles in small number, and minute grains of pigmentum nigrum; and when the formation of pus is advanced, then crystals of the phosphate of am-

monia and magnesia, in their characteristic coffin-shaped prisms, and fragments of destroyed organic tissue, make their appearance. The wall of the lung-cell is in such circumstances rendered thin, and the structureless membrane is, either entirely or in part, destroyed by pressure, and not by any peculiar or inexplicable bad quality of the infiltration. After a still longer period the thicker, elastic tissue also gives way, and with it, at the same time, the partition separating it from the surrounding cells, which thus come to communicate together; pressure increases in every direction the loss of substance, thus forming the germs of the excavated caverns which are developed in this way.

Tubercles, as well as more highly organized tissues, commence with the formation of cells, but they fall short in the power of developing the organic germ, or of reaching the higher stages of the progressive metamorphosis, which have been well described in connexion with the exposition of the various kinds of exudation.

The final condition of the inflammatory product, the so-called indurated hepatization, exhibits in the expectoration no characteristic signs, at the most nothing but pus cells, if there be an accompanying broncho-blenorrhœa. Lungs in this condition shew, if incised, the morbid product to consist of crude, coagulated fibrin in an amorphous condition, and the physiological tissue in its immediate neighbourhood is found shrunken and obliterated.

The pneumonic product, when converted into lime or chalk (improperly termed ossification), examined by the microscope, is seen to consist of black, irregular masses, composed of carbonate and phosphate of lime, which give off numerous air bubbles on the addition of sulphuric acid, forming needle-shaped crystals of oxyhydrated sulphate of lime. Crystals of cholesterine are seldom wanting in these calcareous masses; this, however, is readily intelligible, for extravasations of fibrin are generally accompanied by the deposition of fat.

Fibrinous clots are not found at the commencement of the inflammatory process in that form of pneumonia, which is connected with the albuminous *crasis*, and gives rise to an albuminous deposit in the lung cells. I have repeatedly examined the expectoration in the hypostatic pneumonia of typhus fever patients, and in the pneumonias accompanying the acute exanthemata, without being able to discover anything but epithelium cells and blood globules, or merely pigment grains and numerous pus cells, into which the extravasated albuminous deposit becomes converted in an extremely short time. Flakes of coagulated fibrin occurred but once, and that very sparingly, in a typhus case which ran a regular course. The post mortem examination, which was performed by Dr. Dlauhy, discovered a croupy pneumonia of the right upper lobe, together with the appearances of an abdominal typhus. The patient was twenty-two years of age, and of youthful vigour.

I think it right to make mention of another rather rare case, in which the auscultatory phenomena pointed to a lobular pneumonia of the lower lobes of both lungs, coexisting with the symptoms of a high typhus fever, of an abdominal type. The sputa were

examined several times daily, and they exhibited pus cells merely, with many superimposed granules, and few blood globules; in the diarrhœic stools there appeared an albuminous mass, with uncommonly numerous pigment cells, but not a trace of the peculiar crystals of the ammonio-magnesian phosphate. The patient, a stout miner, in the flower of his age, died, and the autopsy brought to light the result of the inflammatory process in the lobes, which were infiltrated with an albuminous deposit; a small ulcer was found on the posterior wall of the larynx, but in the abdominal cavity there was not a trace of the typhous action.

I think it incumbent on me to present to the practical physician, the following important propositions, which have had their origin solely and purely in unprepossessed, and sober clinical observation, and by no means in sophistical theory or learned phantasy, and of the truth of which every physician can convince himself, who is sincere in the advancing of Science. I have come to this conclusion relying upon my researches into the diseases of the respiratory organs, to which I have devoted myself, from choice, for a number of years, upon the friendly communication and experience of my colleague, Dr. Engel, and upon the results of the multifarious, and very different descriptions of treatment I have had occasion to observe.

Croupy pneumonia, like every other inflammation having the tendency to pour out fibrin, is the expression of the fibrinous (phlogistic) blood crisis; by means of it the excess of fibrin comes to be thrown off, and thereby, approximatively, the normal mixture of the blood becomes restored. It is some local irritation which causes this or that organ, in particular, to be the seat of its deposition, effecting the localisation of the morbid process.

MULDER's inquiries have unquestionably shewn that the oxide of *protein*, which is formed in the lungs from the combination of protein with oxygen, is present in pneumonic blood, in much greater quantity than in a state of health, and he has come to the conclusion that the inflammatory process is the result of the presence of an increased quantity of the oxide of protein, and that the capacity of the latter for combination with oxygen is in proportion to its quantity; so that this oxide of protein is, in inflamed blood, in an unusually high state of oxidation. Thus, in these experiments, is found a scientific foundation for the long acknowledged proposition, which yet was never proved, that inflamed blood possesses an increased degree of oxidation.

The microscope exhibits in pneumonic expectoration blood globules (whose existence here is as undeniable as in purpura hæmorrhagica), which, however, some physicians have erroneously considered to be derived from the mere exudation of the colouring matter of the blood. But inasmuch as blood cells cannot force their way through the walls of vessels in a normal condition, and no one at present willingly countenances the fable of vessels with open mouths, we have no other resort but to believe in the bursting of the very fine capillary vessels, or that their parietes are in a diseased state, wherever blood cells are found out of the sphere of the naturally closed, vascular network.

The process of deposition of the morbid product begins with the commencement of the pneumonia ; no anatomist assumes an inflammation to be present when its tangible manifestations are wanting, and herein is grounded his distinction between inflammation and other allied processes, one we must adhere to, if we would avoid being again misled. When the inflammatory product is once separated from the circulating fluids, it must either run through its appropriate metamorphoses in the affected organs themselves, or it must be absorbed and entirely removed from the organism, as unfit for further use.

When the separation of the superfluous and highly oxidised fibrin is accomplished, and the normal mixture of the blood is restored, the symptoms of febrile commotion at once subside, without there being in the ill-defined, hepatized part, the smallest signs of resolution or of a preparatory or commencing crisis. We observe this repeatedly in the inflammations of the serous membranes after effusion has occurred, and in the exanthemata after the efflorescence of the specific eruption.

It is very generally thought that a commencing pneumonia can be cut short by large and repeated venesections, and its farther extension prevented. I must allow that others have been more fortunate than me, for I cannot boast of such a result, on the contrary, I have often had occasion to observe a very recent pneumonia and one small in extent, make rapid advances, and in a few hours spread over an entire lung, notwithstanding that blood was drawn largely, and at short intervals. The cutting short of the pneumonic process, like that of any other *dyscratic* affection, should be considered possible only so long as the morbid material continues in the blood ; when this material is once separated it must run through the peculiar changes incident to it, in the interior of the organ in which it has been deposited as the product of the inflammation, a proceeding which may be advanced by appropriate treatment, but which, by erroneous views, may also be hindered, and brought to take an unfavorable turn. The solid effusion resulting from the inflammation would cause, by its compression, the circulation to cease in the capillary network of the hepatized lung, even if the blood could be supposed to be still in motion in the part so affected. Anœmia or diminution in the quantity of blood contained in the hepatized part, is, consequently, a necessary sequel of the pneumonic process, and this diminution is in proportion to the dryness of the extravasated fibrin, as well as to its firmness and solidity.

Venesections, after the demarcation of the hepatization, may indeed, render free the circulation in the comparatively unimpaired pulmonary tissue, but they can exercise no direct influence upon the quantity of blood in the hepatized part, as its circulation is abolished, or its portion of blood is already reduced to its minimum.

With the formation of an extended fibrinous hepatization, the globuline and hæmatine become proportionably less in quantity, and herein we discover the immediate cause of the yellowish discoloration of the

skin, which, in general, accompanies extensive pneumonia, and herein, likewise, we have the reason of the disappearance of that peculiar colouring of the cheeks, which, at first sight, makes the practical physician suspect the existence of commencing pneumonia, a colouring which sometimes affects both cheeks equally, but often, on the contrary, is more marked on that of the affected side. The yellow coloration mentioned is occasionally, but incorrectly, taken to mark a complication of the disease, and to be a symptom of pneumonia with a bilious character.

Pneumonias which run a regular course, reach the state of hepatization between the third and sixth days, and those usually terminate unfavourably, which, previous to the commencement of that period, have solidified a large portion of the lung, or whose first stage is continued beyond that time. When we say that a pneumonia is in course of resolution, we understand, thereby, the infiltration of the hepatized part with albuminous serosity, through the agency of which the breaking up of the crude, fibrinous material is induced, and the formation of pus cells is rendered possible. Without such infiltration there can be no softening, and no perfect cure, and without it the hepatization must become a permanent condition, or, what commonly occurs, the part must be changed into a tubercular mass. This imbibing of resolving serosity is effected by means of a new congestion, which occurs the more readily the more the affected parts are surrounded by sanguiferous vessels. This is the explanation of pneumonia always softening first at the periphery, and of the resolution proceeding thence towards the centre. It is the reason why pneumonia so often undergoes purulent softening at its exterior, while the centre remains dry and ill-coloured, and is subject to the necessary transition of the fibrine into casein, as well as the reason why pneumonia of the lower lobes usually runs a quicker and more favourable course than hepatizations of the upper lobes, which have been long a source of dread on account of their known tendency to pass into tuberculosis.

Along with the resolution of the fibrinous material, and the formation of pus cells, the expectoration or absorption of the extravasated product is rendered possible. Pus cells cannot be received back into the circulation without the separation of the parietes of the vessels; absorption, consequently, can be admitted only in case the broken-up fibrin has not yet advanced to cell formation, or that the already formed cells have been resolved into granules by the agency of the purulent fluid. These molecular grains, reconducted into the general mass of blood, are no longer applicable to the animal economy, and are, in the form of critical evacuations, removed from the body in different ways. The crises begin with the softening of the inflammatory product. By a curious confusion of ideas it was long believed that the favourable termination of a disease was the immediate consequence of the crisis, whilst a careful examination of the results proves, as in pneumonia, that the crisis only then takes place when the hepatization is resolved; the softening is, therefore, the antecedent, and the crisis follows as a consequence.

I take the liberty, in unison with Scharlau, of remarking that this doctrine, so long and so often sustained, suggests some important doubts, exhibiting to us, as it does, the body in an increasingly morbid condition, up to the appearance of the critical evacuations; until nature, long oppressed, rallies, attacks the disease, and removes the *materia peccans* from the organism. We cannot easily comprehend how the body can be in a progressive morbid condition, and then at once return to health. Why does the curative power of nature wait so long until the disease has reached its summit, when it must be, in its most advanced stage, much more difficult to be subdued than at its beginning, when no morbid product, endangering life, has been formed? Must we not assume that in such circumstances the curative power of nature diminishes with the development of the morbid process? and that it, if unable to suppress a disease in its embryo state, is much less adapted to sustain a struggle, successfully, with a fully developed disease? Normal vital conditions result from the harmonious action of the blood, the nerves, and other organs, a state which does not exist in disease.

It is much more correct to regard the apparently abnormal effusions occurring in certain organs, as permanently advancing critical efforts, which, in case the disease terminates favourably, continue until the relative condition of the elementary parts of the blood is restored to a normal state. The blood, having its vital power restored, nourishes and gives a stimulus to the rest of the organism, it gives rise to abundant secretions in every direction, by which it, as well as the entire organism, returns to its normal state. That convalescence, and the secretions, in consequence, march hand in hand, and that the one is the sequel of the other, is manifest from what has been already said.

The resolution of pneumonia may occur from the fourth to the seventeenth day, but there is no more a fixed period for its commencement, or that of the pus cells in the expectoration, than there is for the passage of the first stage into the second. Pneumonias, indeed, may be observed to advance continually up to the end of the fifth day; on the sixth to exhibit a *perturbatio critica*; and on the seventh, a perfect crisis: but we must, in truth, also acknowledge, that pneumonias very often terminate favourably, whose critical evacuations do not exactly coincide with the critical days, and that any pneumonia may terminate on any day within the three first septenary periods. If the extravasated fibrin does not soften within this time, it undergoes a chemical transition, and presents infiltrated tubercles in the shape of casein, although, before the attack, there was no trace of tuberculosis being present, and although at the autopsy no proofs of the pre-existence of tubercles could be discovered. Since, then, the infiltrated tubercle is formed immediately from fibrinous hepatization, while this, on the contrary, must be looked on as the expression of the phlogistic or fibrinous crisis, it follows that the position of the hyperinosis of the blood being the cause of tubercular infiltration cannot be attacked, without concluding therefrom that every tuberculosis arises from the

arterial crisis alone. Along with the deposition of the hepatizing product I observed in twenty-one cases a simultaneous appearance of an exanthematic eruption (which has been, perhaps, too little attended to), on the lips or *alæ nasi*, and occasionally on the concha of the ear: it is the *hydroa febrilis* of the older authors. This accompanied sometimes the very first stage, while, at others, it appeared when the resolution was about to commence. During its first hours the vesicle contained amorphous plasma and epidermis cells, which were accompanied, between the seventh and tenth hours, by numerous granules, and by fresh pus cells after the contained fluid had lost its transparency. How formidable soever the first phenomena of the pneumonia appeared, I never observed an unfortunate termination when this significant eruption took place. Although the patient were left entirely without medical treatment, and presented highly developed pseudotyphoid symptoms—although he were supposed to have a nervous fever, and the hepatization was attacked with every medical remedy in use for destroying this phantom—although they had been treated by repeated venesections and tartar emetic, and, if not bled, they had had palliatives, narcotics, or even the strongest stimulants, in every case the pneumonic process ran a favourable course, unhampered by the treatment pursued, and afforded grounds for a favourable prognosis, even before the most careful physical examination could trace the first signs of commencing softening.

Extended hepatizations soften very slowly from the periphery towards the centre. Many patients leave their bed for some days, and go without any medical treatment, whilst a considerable portion of the pulmonary tissue is infiltrated, a condition which, indeed, cannot be discovered by the state of the pulse or urine, but by the physical means of examination.

Large hepatizations pass into tubercular masses, generally in the centre only, whilst the parts at the periphery form, with the pulmonary tissue, a permanent, firm, and callous mass, which is but slowly broken up, and which causes the destruction of the tubercular central part. The chronic course of some cases, as also the cure and healing of large caverns (an occurrence much more common than we suppose) is in this way easy of explanation.

I feel persuaded that microscopic examination of the expectoration ought not to be omitted in any pneumonic case, as it gives tangible data for treatment and prognosis not to be supplied in any other way. The most of the established indications we have of the passage of pneumonia into tubercular infiltration are unsafe, and deceitful, and those with a scientific foundation are only applicable in the far advanced stage of the softening of the tubercular mass, and of the formation of caverns.

If the sputa of a pneumonic patient do not possess in the second septenary cycle the signs above given; if they present only a few pus cells and superimposed granules, along with numerous molecular grains; in a word, if they appear as an unplastic mass, incapable of a higher metamorphosis, retaining this character to the end of the third

septenary cycle, then the transition of the fibrin into casein or tubercle is in all probability to be expected.

The unaltered continuance of the physical symptoms which point out the immobility of the pulmonary parenchyma, the presence of vague rheumatic pains, at one time in the muscles, at another in the joints, the continuance of the fever, which is generally of an intermitting type, and the general wasting, will, in conjunction with the results of the microscopic examination, allow a diagnosis to be formed with every degree of certainty.

Rigidity and excessive dryness of the deposited exudation is, according to Engel, one of the weightiest causes of that deleterious transition, as the succeeding resolution may be thereby hindered or even rendered impossible; just as crystals will not form in a too strong solution, and their formation can be only effected by the addition of a sufficient quantity of fluid, so the extravasated fibrin requires albuminous serum, without which there can be no solution, no melting into pus. No doubt the passage into tuberculosis would be often avoided, if it lay in the power of the physician to induce the presence, in the hepatized part of the serosity, without which there can be no resolution. When this serum is in any manner withdrawn from the organism, the solution of the hepatization is rendered impossible, and no additional method of treatment can stop the process of tuberculization. Taking it in this point of view, we find why profuse sweating and immoderate diarrhoea, at the commencement of pneumonia, have been ever esteemed unfavourable signs, and why powerful diuretics have been rejected since the time of the older physicians; why pneumonias with a coincident serous effusion into the pleural cavity, the pericardium, or peritoneum, usually end in tubercles; why cold applications to the affected part of the chest, again so quickly disappeared from the sway of the new all-hazarding therapeia;* and finally, we find why abundant dilution, and treatment calculated to induce a moderate perspiration, notwithstanding all the changes that have taken place in medical systems, have never been driven from that high position, which every reflecting physician must permanently assign to them. From these considerations we can also understand how illtimed, or too often repeated abstractions of blood, retard the resolution of hepatization, or even make it impossible, for the first effect of the venesection consists in the absorption of the, in every case, already poured out serum; and many a pneumonia would not have become tubercular if the congestion, which precedes the softening, and is preparatory to the infiltration (*perturbatio critica*) were not taken for a fresh increase of the disease, and were not removed by immoderate blood-letting.

Since systems of medicine have been erected, and schools founded, methods of treating pneumonia have been adopted in every direction and as quickly altered.

Whilst on one side the lancet, never allowed to rest, has opened

* Query, Hydropathy?—TR.

vein after vein, another school has been quite as active in a contrary course. Consequences which the one party laid to the account of tartar emetic, have been attributed by others to the sole use of opium, aconite, sublimate, or nitrate of potash. And yet the most different ways seem all to lead to the same end, for their statistical reports exhibit, in every direction, the same proportional success, the same splendid results from the method of treatment pursued.

The pneumonic process has been ever the chosen arena of partisans of every shade. I do not consider it necessary to follow any farther the conclusions which naturally follow from this unfortunately lamentable, but surely well-grounded exposition of things, but there can be no difficulty in determining, from the foregoing researches, the peculiar treatment adapted to the pneumonic process. I must yet allow myself to remark, that the stage of the epidemic must exercise as great an influence upon the march of the pneumonia, as upon the way in which the therapeutic means are to be applied. Whilst an epidemic is at its commencement, or at its height, extended hepatizations are formed in a very short time, and can scarcely be arrested by the most energetic treatment; we find, on the decrease of the epidemic, that pneumonias are developed slower and are resolved more easily, and that towards its end they steal on still slower, form no bad hepatization, and do not bear violent blood-lettings without injurious consequences. Combinations of pneumonia, with other morbid processes, arise also at this time, which, in virtue of the state of the blood which causes them, must not be considered as connected with croupy pneumonia.—*From the Zeitschrift der K. K. Gesellschaft der Aerzte zu Wien.*

Poisoning by Hydrocyanic Acid, by H. Letheby, M.B., Lecturer on Chemistry at the London Hospital.—H. L. a young Jewess, aged 22, of short stature, and very deformed, but fat, and generally enjoying good health, had latterly complained of a slight pain in her side, for which, on Friday, March 21st, she consulted her medical attendant; he prescribed a mixture for her, directing that a fourth part should be taken twice a day; and as deceased was also suffering from the effects of chilblains, he ordered her a lotion, containing, as I afterwards found by analysis, very nearly four grains of anhydrous prussic acid. By some mistake, however, the labels were reversed, and the unfortunate patient swallowed a quarter part of the lotion; a dose equivalent to a little less than one grain of the pure poison. At the time when this was taken, she was sitting in a chair; but she instantly jumped up, ran for a short distance, holding up her arms, and gasping, as it were, for breath; she then fell, became insensible, and was violently convulsed, the muscles of her face suffering great distortion, while her limbs were extended, and her head drawn down upon her shoulders. In this state she was conveyed to her bed, and was seen directly afterwards by Mr. Watson, who found her lying on her back, with the body drawn a little forwards; the limbs fixed and extended in tetanic spasm; the whole face swollen, turgid, and almost purple from congestion; the jaws clenched, and the mouth covered

with foam ; the eyes were half closed, but prominent and glistening, with their pupils widely dilated, and, as Mr. Hicks reports, quite insensible to the stimulus of light. She was breathing slowly, with deep, prolonged inspirations, and uttering a moaning noise ; the pulse at her wrist was gone, although the heart still continued to beat with a feeble, fluttering effort. At this time, which was ten minutes before her death, the medical gentlemen had discovered that she was suffering from the effects of hydrocyanic acid, and they instantly adopted means for her recovery, but without the least avail, for the breathing became slower and slower, the body remained fixed and immovable, and she died in about fifteen or twenty minutes from the time of her taking the poison.

The *post mortem* examination was made on the following Tuesday, that is ninety hours, or nearly four days, after death : it was conducted by Messrs. Hicks, Watson, and Waterworth.

The body was livid, especially upon the dependent parts ; the limbs were still extended and rigid ; the fingers slightly clutched, as if from spasm ; the countenance turgid, the jaws fixed, and the eyes half open, prominent, and glassy.

On opening the *head*, they found the vessels, both upon the surface and in the substance of the brain, full of black, liquid blood. There was no fluid in the ventricles, nor was there any odour of prussic acid there. The *chest*, however, when cut into, gave out a *strong odour* of this poison, and it was still more evident in the fluid contained in the pericardium. All three of the gentlemen present were agreed upon this point ; indeed, Mr. Watson, whose sense of smell is almost obliterated, had his attention directed to it by the peculiar sensation which it created in the back of his throat. The *lungs* were highly congested, but free from tubercle or other disease. The *heart* was abnormally small, its valves were healthy, and its cavities filled with very black, uncoagulated blood. The *abdomen* did not present any trace of disease. The viscera were loaded with fat, the liver and gall-bladder normal, and the latter had not any peculiar blue tint. The stomach had a small red patch upon its interior, near the cardiac orifice, and it contained two ounces of a thick fluid, like biscuit and water ; and although it smelt of prussic acid, yet, upon distillation, I could obtain only very faint indications of the presence of this poison ; so faint were they, indeed, that if I had not been guided by the odour, they would in all probability have escaped my notice, for with a solution of nitrate of silver, which is the most delicate test for hydrocyanic acid, there was merely a slight opalescence. Upon testing the remainder of the lotion, which amounted to two fluid ounces in quantity, I obtained 9.2 grains of cyanide of silver : this would be equivalent to 1.85 grains of anhydrous prussic acid, and as the deceased took about half of this amount, it would make the dose a little more than .9, or nearly one grain of the pure acid—a quantity contained in 46 or 47 drops of the diluted hydrocyanic acid of the Pharmacopœia, or in 23 drops of Scheele's acid, taking it at four per cent.

Remarks.—This case may be regarded as one of very peculiar

interest to the toxicologist; the dose has been accurately determined, the effects were watched from the commencement, the *post mortem* appearances have been carefully reported, and, from its being the result of accident, there is no reason to suspect that any of the facts were withheld or distorted. The principal points which it offers for consideration are the following:—

The Dose.—In this case a little less than one grain of absolute prussic acid, diluted with a fluid ounce of water, occasioned death in from fifteen to twenty minutes. It is the smallest fatal dose upon record; for although the Parisian epileptics are reported, in most of our works upon medical jurisprudence, to have been killed by .7 of a grain of prussic acid, yet there is very little doubt of this being an error, and I hope that we shall soon have the statement set right by some of the physicians who were appointed to inquire into that unfortunate circumstance. Now, in reasoning upon the present case, we are not for a moment to suppose that one grain of hydrocyanic acid will, under *all circumstances*, produce death; on the contrary, the experience of almost every one, to say nothing of the case recorded, against this conclusion, would suggest that in this instance it was an unusually small dose for such a serious event. It has appeared from my experiments upon animals, that there are a great number of circumstances which modify the action of this poison; for instance, anything tending to debilitate the system, such as bleeding, fatigue, want of food, or disease, or even a perfectly empty stomach, will tend to increase the susceptibility to its action: a tired or hungry dog may at any time be killed by a dose which a robust or a replete one would take with impunity; and in this case it must be remembered that very little food was found in the stomach, and that the deceased was at the time keeping the observances of the Passover. All that we can say, therefore, in reference to it, is, that one grain of hydrocyanic acid *may* occasion death; and, however important or satisfactory it may be to the minds of a jury, to be able to say that such and such a quantity, and no less, would always produce death, yet we are not at present, and, as I apprehend, never will be, in a position to make such a statement.

The Effects of this Dose.—It appears that the effects in this case were manifested upon the instant. The patient had no sooner swallowed the poison, when she jumped up, looked wildly about her, ran a few steps, holding up her arms, and gasping as it were for breath. *Volition*, therefore, was not instantly destroyed, for she had time to run a short distance, but in less than a minute she fell, and was then insensible.* The *convulsions*, or rather the *tetanic spasms*, which resulted, were very peculiar: she did not throw about her limbs at all, but they became firmly and rigidly extended; and if she had been lying in bed at the time, there would have been no disturbance of the clothes, notwithstanding that

*We have seen a cat, after having swallowed a strong dose of prussic acid run several yards, and climb a perpendicular wall eight feet high: she then fell down suddenly from the top of the wall, quite dead, and all muscular action having ceased within about half-a-minute of taking the poison.—ED.

these effects were kept up for fifteen or twenty minutes. Now, this is a point of very great importance : it was a question in the Leicester case, whether a slow death by the action of this poison, would not be preceded by such powerful convulsions as to disturb everything upon the sufferer ; and it must be confessed, that if we were to judge of the question from experiments upon animals, there would be no doubt of our answering it in the affirmative ; I had come to that conclusion, and would have given evidence to such an effect, before I witnessed the two cases of poisoning at Mile-end. Here were two unfortunate lovers, who had taken prussic acid, fallen into each other's arms, and they must have died without a struggle, for they lay upon the bed, calmly embracing one another, as if in sleep, without a feature being disturbed ; and cases have been published since, to shew that convulsions are not necessarily the consequence of an over-dose of this acid. From an experimental inquiry into the reason of this, I am led to think that it is dependent on the state of the system, for debilitated animals will sometimes die without any scream or convulsion. It is also worthy of remark, that in this case there was *no scream*, the deceased did not speak after taking the medicine, nor was there any vomiting or relaxation of the sphincters. The scream, therefore, although sometimes produced, is not always to be expected ; it was absent in a case recorded by Mr. Pooley in the *Medical Gazette* for April 4, and in the case of Sarah Hart there was a moaning noise produced. The immediate cause of death here, as in other cases which I have noticed, appears to be a tetanic or spasmodic condition of the respiratory muscles : it is manifested by the slow and laborious breathing, by the turgescence of the face, and the venous system generally, as well as by the foaming at the mouth, and these symptoms, joined to the convulsion, so simulate an epileptic fit, that the medical gentlemen who were called in, supposed at first that she was labouring under such an attack.

Post mortem appearances were very similar to other recorded cases ; the body was still rigid, and from the fluid state of the blood, it had gravitated and coloured the dependent parts. The venous system and lungs and heart were gorged with blood, and this was black and uncoagulated. The stomach exhibited the red patches which I have noticed in other cases. The gall bladder was not coloured blue. With respect to the odour, it was absent from the mouth, but very marked in the chest and stomach ; in the contents of the latter, it formed the most positive evidence of the presence of prussic acid, for the chemical reactions were too feeble and uncertain for any conclusion : it is worth mentioning, also, that one of the surgeons whose sense of smell has been nearly, if not quite obliterated by snuff, was able to recognize the poison by the effects which it produced at the back of his throat, and I believe that this is so important a character, that it will often serve to detect hydrocyanic acid, even when it is mixed up with substances having a very powerful odour—it is a sensation which cannot be masked.

In conclusion I must remark, that the preceding case has been

reported by Messrs. Hicks and Waterworth in the *Medical Gazette* for April the 11th, and as that report differs in many important points from this account, it is my duty to refer to it, and to say that I believe the errors have arisen from some hasty and therefore imperfect notes which were given to Mr. Watson at the time I made the chemical examinations.—*Pharmaceutical Journal*.

Case of Racemiferous Hydatids of the Uterus, reported by J. K. Mitchell, M. D.—On the 10th of July I was called to the case of Mrs. T——, who had returned a few days before from a visit to “the South.” She complained of nausea, such as usually affects females during utero-gestation, but of greater intensity and prolongation. There was also an unusual degree of tenderness to the touch in the hypogastric region, extending to the right iliac fossa. A careful examination of the part by palpation, presented no unusual conformation, induration, or tumefaction. The history of the case led to the supposition of the existence of a pregnancy of about a month’s duration, as, previously to that period, her catamenial regularity and perfect health left no doubt of an unimpregnated condition.

Aperient medicines, to regulate a costive state of the bowels, and antacids, for an acid condition of the stomach, with sinapisms as revellents, relieved the more pressing symptoms. On the 18th of July my attention was called to a small tumour on the right side, about half way from the symphysis pubis to the anterior superior spinous process of the os ilii, in right line. It was then about the size of a turkey’s egg. The part was painful to the touch, ached when at rest, and suffered from attempts to alter the position in bed. There was a remarkable frequency (120) of the pulse, some heat of surface, and an anxious expression of countenance. The tongue was dry, but clean, the thirst moderate, the nausea irrepressible; and slight mental incoherency, with restless movements of the head and hands, indicated much disturbance of the innervation.

The application of leeches and a poultice relieved, in some measure, the local suffering, and an antispasmodic prescription abated the restlessness.

No examination exteriorly over the symphysis pubis, by palpation or percussion, could detect any uterine enlargements; so that I was led to suppose that there was an acute affection of the right ovary, complicated with peritonitis, and therefore placed the patient entirely at rest, and used such antiphlogistic measures as her feebleness would permit.

On the 22nd of July the uterus was perceptibly enlarged, occupying a position entirely to the right of the median line, and extending from the place of the tumour first discovered to the symphysis pubis.

On the 26th, an examination *per vaginam* was permitted, and resulted in the certainty that the uterus was enlarged, and connected with the tumour, as the movement of the one altered, in a corresponding manner, the position of the other.

On the 28th, it was found that the rapid increase in the size of the uterus had obliterated the exterior vestiges of the lesser tumour, and that the former occupied the whole of the right hypogastric region, and, rising above the umbilicus, extended a little way to the left of the linea alba.

Irritation, and probably pressure suddenly produced, interfered with the power of micturition, and a catheter was used to withdraw the urine, of which the quantity was scanty, and the quality offensive.

As the case had by that time assumed a difficult and threatening shape, I asked for the assistance of my friend Dr. R. M. Huston; and accordingly, on the 30th of July, a consultation was held, and another very careful examination made, exteriorly, and *per vaginam*.

The uterus had by this time acquired such a size as to fill nearly the whole abdominal cavity on the right side, while it extended about two inches to the left of the linea alba, without any obliquity in the position of the os tincæ, to explain the presence of the body of the uterus on the right side above.

The history of the case, the short period of time since the cessation of the menses, the singular tumour on the right side, and the preternatural rapidity of the development of the uterus, rendered the diagnosis obscure; but on the whole, we were disposed to believe that a dropsy of the right ovary had extended to the uterus, or that there was a rapid production of a mole *in utero*. The absence of any fremitus on percussion, and the escape of a little unmixed blood, misled as to hydatids; and the rapidity of development, and failure to excite motion, left no doubt as to the absence of a fœtus.

On the 7th of August contractions of the uterus, with the usual pains, announced expulsive efforts, and in the course of the night an immense body of hydatids were expelled. There were many thousands of these vesicles attached to each other, or to a common membrane, so as to appear like bunches of grapes. They varied in size from almost imperceptible globules to the dimensions of large grapes. A few had acquired the volume of a pigeon's egg, while one or two were as large as a hen's egg. They were transparent, uniform, and without nucleoli or apparent organs, and might be properly termed racemose acephalocysts.

Hemorrhagy and after pains, as in ordinary cases of labour, followed the expulsion of the hydatids, without causing any abatement of the abdominal tenderness or frequency of pulse.

On the following day signs of puerperal peritonitis became obvious; an addition was therefore made to the consultation by calling in Dr. Joseph Hartshorne, and such measures taken as were possible in the exhausted condition of the patient.

On the 9th the case ended in death, and in thirty-two hours thereafter an autopsy took place, for the following minute of which I am indebted to Dr. Charles Huston, who conducted the dissection.

On opening the cavity of the peritoneum it was found to contain about ten ounces of turbid serum, mixed with pus, of which latter a

less diluted portion was found in the pelvic cavity. The right ovary was completely disorganized, nothing having been left of it but the exterior membrane, which was found ruptured, and appeared to have been filled with pus, of which a part still remained. The left ovary was enlarged and softened. It presented, when cut into, a very beautiful, perfectly developed corpus luteum.

The uterus was about the size of that organ, as it is usually found a day or two after delivery. The interior presented a rough surface at the fundus, as if there had been an attachment of the membrane or of some of the hydatids to it, and that part was partially covered with coagulated blood. The cervix was of an unusually dark hue, but not softer than usual.

This case is interesting for several reasons:—

1st. Because it gave no signification of its character by the discharge, from time to time, of single vesicles, or by intermittent gushes of water, produced by their accidental rupture, an event not unusual in such cases.

2nd. Because it was obviously a consequence of impregnation; a blighted ovum having given origin to the disease, as evinced by the presence of the membranes, to which the vesicles were attached, and by the perfect development of a corpus luteum.

3rd. Because of the very rapid development, first of an ovary, then of the uterus.

4th. Because of the severe constitutional disturbance, which, as proved by the history of other cases, marks the presence of hydatids *in utero*, and is not commonly found either in uterine dropsy or pregnancy.

5th. Because there remained *no traces* of a foetus, and no vestiges of an ovum, except the transparent membrane to which the vesicles were attached; the most careful examination of which could not, *per se*, have given evidence of an ovarian origin.—*Philadelph. Med. Exam.*

Case of remarkable Hypertrophy of the Fingers in a Girl: with a Notice of some similar Cases, by T. B. Curling, Lecturer on Surgery, and Assistant Surgeon to the London Hospital.—Eliza Hitchcock, aged 15, the subject of this congenital malformation, is a pale sickly girl, the daughter of poor parents. On the right hand, the fore, middle, and ring fingers, are of unusual size. The enlargement of the fore and ring fingers is only slight, but the middle one is of extraordinary proportions, measuring as much as five inches and a half in length, and four in circumference. On the left hand, the thumb, index, and middle fingers, are hypertrophied. The index-finger, which is most enlarged, measures five inches and a quarter in length, and four in circumference. The middle finger has a lateral inclination, occasioned by the displaced extensor tendon, which forms a bridle along its outer edge. All parts of these hypertrophied fingers are equally developed in excess—the bones, articulations, integuments, and nails. The two largest fingers are fixed in an extended

position, and the author attributes the girl's inability to bend them to the flexor muscles not having acquired a development corresponding to the fingers upon which they act.

The author observes, that in this remarkable example of partial hypertrophy, there is an apparent absence of all those circumstances which seem favourable to excessive growth—a feeble constitution, sparing nutriment, no extraordinary exercise of the part, and no enlarged vessels or activity of circulation. It would seem as if the formative powers which we see in some few cases exercised to excess in every part of the frame, so as to make a giant, had been limited, in this instance, to an insignificant part of the extremities.

The paper contains a communication from Professor Owen, giving an account of a case analogous to the preceding one. The subject was a child, two years old. The middle finger of each hand was nearly twice as long, and more than twice as thick, as the index-finger.

The author gives the particulars of a hand, a cast of which was given to him by Mr. Dimond, of Frith-street. It is from a Spaniard, the governor of a fort in the Philippine Islands, and presents congenital hypertrophy of the first and second fingers of the right hand. The second, which is of enormous size, had the same kind of lateral inclination as was observed in one of the fingers of Eliza Hitchcock. The author also describes a cast contained in the museum of King's College, London, of the hand of an adult, in which the middle finger is hypertrophied, with a slight lateral inclination.

The author, after noticing the rarity of this malformation, refers to two published cases of it; one recorded by Mr. Power, of Dublin, the other by Dr. John Reid. In the former, the fingers were divaricated from the middle. In all the four foregoing cases, in which the hypertrophied fingers were bent to one side, the author suspects that the inclination was produced, as in the case of Hitchcock, by the tension of the displaced extensor tendon, which had not elongated in proportion to the increase in the size of the finger.

The author notices whether it be possible, by any mode of treatment, to arrest the inordinate growth of the fingers in early life. He doubts if this could be accomplished by any other means than by firm and long-continued pressure; but, in addition to the suffering attending it, the impairment of the functions of the part caused by pressure constitutes an insuperable objection to its employment. In a case where one finger only was enlarged to a great extent, and nearly useless, he recommends its removal. In other cases, the enlarged finger might be reduced in size by amputation of the distal phalanx.

The paper is concluded by a brief notice of two cases of hypertrophy of the toes.—*Med. Gaztte.*

On the poisonous Effects of Savin (Juniperus Sabina), by H. Letheby, Esq. M.B., Lecturer on Chemistry at the London Hospital.—A young woman, M. A. N ———, aged 21, had enjoyed remarkably good health up to twelve hours before her death. On the

night of Tuesday, April the 22nd, she supped with her lover, by whom she was far advanced in the family way. She was then cheerful and hearty, but about three o'clock in the morning she awoke her mother, with whom she slept, and complained of a violent pain in her stomach. She was very sick, and her mother, believing that it arose from a too hearty meal, got up, and gave her some brandy and water. The sickness, however, was not diminished, and she subsequently became insensible. About eight o'clock, her mother sent for the parish surgeon, whose assistant came to see her; he prescribed some ordinary medicines, which, from her insensibility, they were unable to administer. Fearing that there might be some danger, the mother sent for another surgeon, Mr. Newth, who got to her about eleven o'clock. She was lying on her back, perfectly insensible, breathing laboriously, and with stertor; she was foaming at the mouth; her countenance was turgid, the eyes shut, with the pupils much contracted; her limbs were also convulsed, and the mother told him that she thought she had been suddenly taken in labour. He therefore made an examination *per vaginam*, but found that the os uteri was only slightly dilated; the membranes, however, were ruptured, and the uterus was still acting vigorously, each contraction being accompanied by a convulsive tremor. Believing it to be a case of puerperal convulsions, he bled her, and applied cold to the head, but this did not in any degree restore her. As the os uteri became more fully dilated, he found that the head of the child presented, and that it was gradually descending. About three o'clock, while the labour was thus progressing, she uttered a low moan, and in a few minutes ceased to breathe. Mr. Newth immediately sent for the forceps, and delivered her of a male child, which was dead; as far as he could judge from its appearance, and the mother's report, deceased was somewhere between the term of the seventh and eighth month of pregnancy.

Twenty-four hours after death, Mr. Newth made an examination of her body. It bore no marks of violence, was well formed, and rather robust. On opening the head, he found that the vessels upon the surface of the brain were much gorged with black, fluid blood, and in proceeding with sections of the cerebral substance, discovered that the grey matter was infiltrated in various parts by the same dark-looking blood; this he especially noticed in the anterior part of the corpus striatum. The choroid plexus was also gorged; the ventricles were empty. The lungs were a little congested on the dependent parts, but otherwise healthy. He did not examine the heart, nor did he pay any attention to any of the abdominal viscera besides the stomach. This, on being opened, appeared rather paler than usual, excepting one or two spots, which were red, as if blood had been effused into the mucous tissue. It contained about four ounces of fluid, which he secured, and brought to me for examination. This fluid had a dark, brownish-green colour, smelt of digesting matter, and exhibited an acid reaction. A part of it was subjected to distillation in a retort. The portion which came over was turbid and opaque; it smelt and tasted like oil of savin. When examined with the microscope, it was

found that the turbidity was due to minute oil globules. The whole was therefore shaken with ether, which instantly rendered it transparent; and on allowing this to stand and evaporate spontaneously, I procured several small drops of a yellow oil, having all the physical character of oil of savin. A little of the sediment from the original bottle was afterwards examined under the microscope, and compared with the powder of the dried plant; their structure appeared to be perfectly identical. The remainder of the fluid was filtered, and the residue digested with ether, by which means there was obtained a green solution, containing resin and the vegetable colouring matter, chlorophylle. In order, however, to be certain of all results which were thus manifested, I instituted a parallel series of experiments with a little powdered savin, and there could be no doubt in my mind of their identity. It afterwards occurred to me that porter might possibly yield similar products. I therefore distilled four ounces of this fluid, and after rejecting the alcoholic portion which first came over, I obtained a liquid which was slightly turbid, from the presence of oil; but if we except this particular there was no similitude whatever between the results.

Remarks.—In the evidence which was given before the coroner, (for I was unable to attend the inquest) an opinion was entertained that deceased had died of puerperal convulsions, and a verdict to that effect was accordingly returned. It appears, however, after carefully reviewing the case, and making a comparison of the symptoms with those which are produced by savin upon the lower animals, that this poison might have been the cause of her death, for one of the most constant effects produced by it is a great congestion of the venous and capillary systems, together with profound coma. For instance, to take one case out of many. Two drachms of powdered savin, which had been kept for some years, was administered with food to a small terrier; in about one hour the animal appeared a little dull and sleepy, but it was otherwise unaffected, and even this appearance might have escaped notice, if we had not been watching for effects. In another hour and a half it began to vomit, bringing up the greater part of its food, and some of the poison. This vomiting was repeated at various intervals for about one hour and a half. It then appeared exhausted, and laid down, as it were, to sleep, but it never again rose, for in two hours it was found in the same position, perfectly insensible, and comatose, breathing with a peculiar puffing noise. The eyes remained closed, the pupils were contracted, the limbs moved when they were pinched, and the heart was beating with a slow, labouring action. It lay in this position for about eight hours, during which time a great deal of blood was passed by stool, and there was an occasional convulsive movement of the hind legs. Its breathing became slower and slower, until death took place, which happened fourteen hours after the administration of the poison.

Twenty-four hours after death the body was found in the same position in which the animal had lain down, some hours before it died. The vessels on the surface of the brain were much congested and

filled with dark blood; the choroid plexus was also gorged, and the substance of the brain more turgid than natural. The lungs were collapsed, and of a bright scarlet colour; the right cavities of the heart were full, the left empty. The liver was almost black, the gall-bladder full of very green bile. The spleen purplish black. The stomach was pale externally, and so was the upper part of the small intestines; the lower, however, were exceedingly congested, and looked as if blood had been effused between the muscular striæ. On opening them, they were found to be highly vascular, and covered with a layer of sanguineous fluid. The stomach contained two ounces of a dark-brownish liquid, which gave a turbid fluid on distillation, from which a little savin oil was obtained. The internal coat of the stomach was pale, excepting in two or three spots, where the mucous coat was injected with blood.

Now, it will be observed, that these symptoms and appearances simulate very closely those of the case under consideration, and when it is borne in mind that puerperal convulsions do not very frequently attack at this period of pregnancy, and that when they arise from cerebral congestion they are generally ushered in by some premonitory symptoms, there is a great reason for believing that savin was the cause of death.

I regret that the alimentary canal was not more carefully examined, for it would appear from our experiments that savin exerts a specific action upon the vessels of the lower bowel, rendering the whole of it turgid, and, as it were, inflamed; there is no doubt, also, that this is the secret of its influence upon the uterus, both in producing abortion and urging on the menstrual flow, for its vessels must participate in the general plethora of the intestinal system. Vogt, indeed, says that it has a tendency to produce an apoplectic condition of the fœtus, and this appears to be highly probable.

Judging altogether of the effects of savin, we may regard it as a local irritant; it also affects the constitution, appearing to exert an influence on the vascular system, producing increased action of the heart, and subsequently a gorged state of the venous and capillary circulation. This may occasion the coma and insensibility, or even the convulsions and extravasations, which supervene.

In medico-legal inquiries we should expect to recognize savin by the following characters:—Its action is not immediate, but in two or three hours there might be pain in the stomach and vomiting; subsequently to this we may find coma, slight twitching of the limbs, bloody stools, and death in about twelve or fourteen hours; after death the vessels of the brain may be found congested, the blood black, the heart full, especially on the right side; the lower bowel highly congested, and containing blood. If powdered savin has been administered, the contents of the stomach will have a greenish tinge, and when examined by the microscope, it is easy to recognize the peculiar structure of the herb. On distillation, it will yield a turbid fluid, which is rendered clear by ether; and on spontaneous evaporation, this will leave a pellicle of yellowish oil, having the odour and taste of savin oil. The residue, digested with ether, produces a green solution,

containing resin and chlorophylle. The substances likely to be confounded with it are green herbs containing volatile oil.—*Lancet*.

Chemical and Physical Properties of Water, &c.—As an instance of the extent to which water enters into the formation of vegetable substances, we may select the tillandria, a species of aloe, which yields by tapping several pints of this fluid, almost perfectly pure, or, to use a more familiar example, the cucumber, to the composition of which it contributes more than ninety per cent. Water is essential, although in less proportions, to the existence and growth of every form both of vegetable and animal life. About seven-eighths of the human body are composed of water; the hardest substances, such as bone and wood, contain it in the proportion of 70 to 80 parts in the hundred, and even the most compact minerals owe their bulk to this source. According to Saussure, each cubic foot of the air we breathe, when charged with moisture at 65° of Fahrenheit, contains eleven grains of water; and the perspiration, both sensible and insensible, so important in the elimination of effete matter from the animal frame, consists chiefly of this fluid. Modern science has therefore shewn that the epithet of *omniseminaria*, first applied to it by Thales, the Milesian, is literally correct. Pure water, chemically considered, is an oxide of hydrogen, consisting of 85.7 parts of oxygen, and 14.3 parts of hydrogen, one cubic inch of it, at 60° of Fahrenheit, weighing $252\frac{1}{2}$ grains; but its specific gravity of course varies with the temperature. It freezes at 32°, and boils at 212°, under the common pressure of the atmosphere.

Water is described as a pure, tasteless, colourless, and inodorous fluid, but it is seldom found in conditions to render this definition strictly applicable, for all water, previously to repeated distillation, contains atmospheric air and other gases, and different saline ingredients, not to speak of organic matters, which are probably of an azotised nature, if the investigations of Professor Connel, of Aberdeen, should prove to be correct. Under the microscope the purest water exhibits the curious spectacle of myriads of multiform animalcular beings, engaged in the pursuit and destruction of each other, and moving in ceaseless and rapid evolutions.

Owing to a variety of circumstances, there is a great difference in the flavour communicated to the palate by water, as well as in its effects on the nerves of smell. Its agreeable taste, which it loses by boiling, is owing to the presence of atmospheric air. The alleged absence of colour in water is in direct opposition to the result of daily observation. We do not here allude to the varying hues of the ocean, *οἶνοντα πόντον*, whether green, purple, or blue, or even red, as met with in the exploratory voyage of the Beagle, off Chili, the appearance in this case having been owing to the presence of myriads of animalculæ, so minute that a single drop of water was calculated to contain a number equal to the entire population of the globe, and which in bursting, discharged a brown matter, on which depended the change of colour.

But many waters, independently of any obvious causes, are not

devoid of colour, as the red water of Joppa, the blue waters of Thermopylæ and the Rhone, the black waters of the South American rivers, as well as of some of the lakes of Savoy and Peru. The conclusion of Humboldt, therefore, is not without grounds, that the proper colour of water might be blue or green, as nothing in fact proves it to be by nature white; and when water viewed by reflection appears coloured, we must admit the presence of a colouring principle, although the quantity be so minute as to elude the detection of chemical research. The purity of water depends on the source from which it emanates, and is indicated by its specific gravity, an imperial pint of perfectly pure water weighing 20 ounces avoirdupois, at a heat of 62° of Fahrenheit.

We are told by Dr. Christison, that the lowest proportions of solid matters which he had met with in water, amounted to 1-22000th part; from 8 to 12,000 parts being common in the springs of Scotland. Water which contains more than 2,000 parts of solid ingredients, should be classed amongst mineral waters, and is scarcely fit for domestic use. We have already stated, that the admixture of foreign matters depends in part on the source from which the water is taken, hence the difference in rain, snow, ice, spring, river, lake, and marsh waters.

That subjected to repeated distillation is the purest of all, for it is thereby deprived, not only of its solid ingredients, but of its atmospheric air, the absence of which imparts to it its well known mawkish taste. The use of distilled water has been recommended, for common purposes, by Dr. Lambe and others, on what we can only view as fanciful grounds, viz.—the deleterious qualities of the decomposable matter of common water.

It is true enough that the putrefaction to which this fluid is liable, indicates clearly the presence of certain proportions of organic matter, but in no sufficient quantity to confer on it any injurious properties. Next in purity to distilled water is that which falls from the clouds, although at the beginning of a shower it is stated by Christison to be muddy, of strong sooty smell and taste, and loaded with sulphates and muriates, qualities which are probably attributable, in part at least, to the specimens which were examined having been collected in a large city. Rain water is soft, and of peculiar flavour, containing nitric, muriatic, and carbonic acids, muriates of soda and lime, a small portion of free carbonic acid gas, about $3\frac{1}{2}$ parts in 100 of atmospheric air, about the same proportion of oxygen, and, as already alluded to, in cities, soot and a little calcareous matter derived from the mortar. The existence of ammonia in some water, and the important effects attributed to it, the reader will find fully discussed in Liebig's Chemistry, and Johnston's Agricultural Lectures.

It is to the air and carbonate of ammonia, which rain water derives from the putrefaction of nitrogenous substances, that it owes its softer feel, rendering it the best adapted of any for the purposes of the laundry.

The natural state of water is a solid in form of ice. It occurs in

crystals in the shape of hexedral prisms, but from the presence of caloric it is generally found in the fluid state, or, when that element is present in larger proportion, in the condition of gas or vapour. In this triple form of water, and its endless adaptations, the hand of Almighty wisdom is most strikingly apparent; of this one instance is so very remarkable, that, I may be pardoned for its introduction here. It is a condition of matter that all bodies become heavier as they change from a fluid to a solid state, water alone becoming lighter as it is converted into ice—why then this exception to a general law? Did ice, as it forms, become heavier than water, it would sink in successive layers to the bottom, till the earth should be converted into one cold, barren mass, destructive alike of all animal and vegetable life.

Spring, pump, or fountain water, is always of a temperature above that of the freezing point. It is simply rain water, which after percolating through various strata of the earth, reappears on the surface, imbued with the soluble matters acquired in its passage.

All spring-water, even the purest, contains impregnations both of vegetable and animal substances, some air, and a varying quantity of saline ingredients. When these exceed 5000 parts, the water is said to be hard, and unfit for the purposes of washing or cooking, curdling soap, and depriving vegetables of their fresh green colour, defects which the cook has sufficient skill in chemistry to obviate by the addition of a little pearl-ash or soda. Hard water is a less perfect solvent of organic matter than that of a soft quality, and hence its unfitness for tea-making, brewing, and other culinary purposes.

As a proof of its unwholesomeness, horses will refuse to drink it when they have access to soft water, and it has the obvious effect of making the coat of this animal to stare. The salt, from which the property of hardness is most frequently derived, is sulphate of lime.

River water is a mixture of rain and spring water, and from the agitation it undergoes, it contains less impurities than stagnant waters. Bicarbonate of lime is a very common constituent in river water, which we may frequently observe deposited in thick crusts on the interior of a boiler, the excess of carbonic acid, which held it in solution, having been driven off by ebullition.

Lake waters consist of accumulations of rain, spring, and river waters, rendered more or less impure by the decay of organic matters; and marsh water is of similar constitution, but more stagnant, and contaminated with putrescent animal and vegetable remains. Where marshy grounds are subject to occasional inundations of sea water, the unwholesome stench that arises is in a great degree caused by the evolution of sulphuretted hydrogen gas, which is set free by the decomposing effect produced on the sulphates of the salt water, by the putrefying vegetable remains which abound in such situations.

Such are the modifications of water, which we ordinarily find. An article which enters so abundantly into our daily food, must by long and perpetual use exert some influence on the health, and from its absolute necessity, not only to the comfort, but to the very exist-

ence of animal life, we find it attracting attention in all countries, at every period of their history. Hence the universal favour in which it has been successively held by the Pagan, the Mahometan, and the Christian, as may be shewn by reference to the sacred fountains of ancient Rome, "*Sacri fontis nemus*," the holy wells of Roman Catholic Christianity, and the repeated baths and ablutions so strictly enjoined in the pages of the Koran. And the stupendous remains of the aqueducts met with in many parts of the world, shew what moment was attached to a full supply of pure water. In this country, however, due attention has not yet been paid to either the qualities of the water in common use, or to its adequate supply to the populace of some of the larger towns.

I shall therefore offer no apology for introducing here such information as I have been able to collect on this neglected subject, hoping thereby to direct to its more full investigation, the researches of the many professional men fully qualified to do justice to the inquiry.

The purest waters are the most wholesome, and where much foreign matter is present, different means have been resorted to get rid of it, as ebullition, distillation, filtration, and the admixture of chemical re-agents.

There are, however, few places in Ireland, in which water sufficiently pure might not, without much difficulty, be obtained, nor am I aware of any place, where it would be necessary for the purpose, to have recourse to the construction of Artesian wells. But even if this should in any case be requisite, the principle of this mode of bringing water from a great depth to the surface is well understood. It was known to the ancients, as appears from a passage of Olympiadorus, quoted by Niehbuhr, and has been carried into operation even in the desert of Sahara. The appellation is derived from Artois in France, a district in which their construction is well understood, and frequently practised. Artesian fountains, "*Puits Artesiens*," are simply vertical perforations, of small diameter, carried down through the successive strata of the earth by a peculiar boring operation.

Some of them have been carried to the depth of 500 yards, and in China from one to 3000 feet.

The result is, that water, generally of a pure and soft quality, is sent up in jets through the perforations, owing to hydrostatic pressure, arising from immense reservoirs, supposed to have accumulated below the surface, from atmospheric deposition. For further information on this curious subject, the reader may consult an interesting paper communicated by Arago, to the "*Annuaire du Bureau des Longitudes*, 1835."

To afford opportunity for comparison with the ordinary waters of Ireland, we shall introduce here a notice of some of those in most common use in England:—

		Solid Contents in a Gallon.	
		grs.	grs.
Hull waters, from River Hull,		19·60	to 19·80.
Thames, at Brentford,		19·768.	

	Solid Contents of a Gallon. grs.
Thames, at Main Spring,	22·062.
West Middlesex water works,	13·54.
Chelsea waters,	13·93.
East London water works,	24·000.
Kent water works,	the same.
Lambeth water works,	27·30.
Kent water works, from River Ravensbourne,	30·20.
The deepsprings supplying Whitbread's brewery	41·20.

And it has already been stated, on the authority of Christison, that the waters of Scotland usually contain from 8 to 12,000 parts of solid ingredients.

On comparison of the Irish waters, the following tables will shew that in almost every instance where they have been examined, they are of a considerably greater degree of purity.

A wine pint of the waters of Limerick, according to Dr. Gore's Analysis, contains the following proportions of saline matter.

	grs.
The well at the entrance gate of the new Barrack,	7·0.
Well at the hospital of do.	7·8.
Force pump well outside the wall of do.	5·0.
Drinking well at the Ordnance Barracks,	6·4.
Well used for horses at do.	22·5.
Water of the River Shannon, taken from the tanks of the Limerick Water Work Company,	2·5.

These waters are of a muddy brown colour, owing to their holding in suspension a quantity of foreign matter, which, however, subsides on standing.

Analysis of a Pint of the Water at the Barrack Entrance Gate.
Gaseous Contents.

Of free carbonic acid gas,	an inappreciable portion.
Of common air,	1·3.
Carbonic acid gas separated from the earthly carbonates by ebullition,	1·7.
	<hr/>
	Total, 3·0.

Solid Ingredients.

	grs.
Carbonate of lime,	3·7.
Sulphate of lime	2·6.
Carbonate of Magnesia,	0·4.
Muriate of Magnesia,	0·2.
Muriate of Soda,	0·7.
	<hr/>
	Total solid contents, 7·6.

The other wells examined contained similar ingredients, and closely approached the same quantities, except the horse well, which

differed in the large amount of muriate of soda—viz., 17 grains in the pint, an excess which is accounted for by a provision store having existed for many years on the spot, and the tank of another being still near the same place.

The lime and magnesia generally existent in the well waters of the vicinity of Limerick, are traceable to the magnesian limestone, which abounds in the neighbourhood.

On reference to the above table, it is apparent that the river water, as not containing more than one-third of the solid ingredients in the well water, is much better adapted for common domestic purposes, and was recommended to be employed by a Board of medical officers, assembled whilst I was in Limerick, by order of Major-General Lord Downs, to investigate the subject.

The waters of Limerick have long had a character amongst strangers, for producing diarrhœa, but no proof of their personal bad effects was brought before the commission, nor had I anything from my own experience or observation to confirm the impression generally held; the stigma attaching to them probably on no better grounds than to the waters of the Neva, the Rhine, and the Danube. Yet I believe it is certain that in some instances temporary diarrhœa has been produced; but strangers, generally, and the permanent residents, experience no unpleasant effects whatever from their free and constant use. Dr. William R. Gore, of Limerick, to whom I am principally indebted for my information on the subject, was one of the members of the Board alluded to, and was requested by them to undertake the chemical analysis. He was kind enough to point out to me the means he employed to ensure accuracy, and shewed me, through a powerful microscope, some of the saline products, the crystals of muriate soda in particular appearing particularly large and distinct.

In the Report drawn up by him, he recommends the purification of the waters by infiltration through charcoal and sand.

WATERS OF CORK.

The waters from the different sources supplying the city of Cork, so closely resemble each other, as to lead to the belief that they flow over beds of similar formation.

Table of solid Ingredients.

Basin stream,	2 $\frac{1}{2}$ grains per wine quart.
River Lee,	2 $\frac{1}{4}$ „
Blarney river, pipe water, . . .	1 $\frac{1}{2}$ „
Pouladuff stream,	1 $\frac{1}{4}$ „

The difference in solid matters being attributed by Dr. Edmund Davy, Professor of Chemistry to the Royal Institution, in a Report addressed to my friend, Mr. Jennings, of Cork, from which I derive my information, to the variable quantity of a light, flocculent, brownish

substance, which he terms carbonate of lime and iron. The chief chemical constituents of the Cork waters are chloride of sodium, chloride of lime, sulphates of soda and lime, carbonates of lime and iron, and organic matter, in slightly varying quantities. With the exception of the substance above alluded to, the other solid ingredients exist in scarcely appreciable quantities, even the common salt not exceeding from 5–10th to 7–10th of a grain in the wine quart. The organic matter is in *an inappreciable quantity*. Waters being termed hard or soft from the varying amount of the saline ingredients, those of Cork are to be regarded as soft waters, as they contain much less solid matter than the waters of the Liffey or the Thames, and not more than one-fourth of those of the Seine. The deposit in the pipes is looked on by Mr. Wickstead, in his Report, merely as a mechanical one.

On reference to an analysis of the drinking water of Blackrock, obligingly communicated to me by Mr. H. Heynes, of Cork, I find that it is of unusual purity, the saline ingredients only amounting to six grains in a wine pint.

WATERS IN COMMON USE.

Waterford.—The waters of this city generally contain a trace of iron. The following analysis is by Dr. Barker, Professor of Chemistry, T. C. D., for which, and many other acts of kindness, and valuable information, I stand indebted to my friend Mr. H. H. Nivens, of Waterford.

Analysis of Waters at Cherry's Brewery, King-street, Waterford.

The total residuum from a quart of the water, dried over a water bath, gave the following results on examination :

Sulphate of lime,	. . . . .	4 grs.
Muriate of lime,	. . . . .	6·5
Muriate of soda,	. . . . .	9·5
Carbonate of lime and magnesia, and oxide of iron,		0·75

Total, . 20·75

It also contained a small quantity of carbonic acid gas, holding the carbonates of lime and oxide of iron in solution.

The ancient physicians differed in their opinions as to the salubrity of spring and river water, but it is sufficient to know that the purest waters are the most wholesome.

It is true that river waters contain more or less organic matter in a state of decomposition, but very rarely in quantities sufficient to injure the health, their only manifest operation being, in some cases, the production of slight relaxation of the bowels, or in rare instances even of dysentery. But the organic matters received by rivers in their progress, especially through large towns, are quickly thrown off in the course of their passage towards the sea. With regard to cal-

careous waters, their habitual use by the inhabitants of limestone districts renders it questionable how far they may be injurious to those accustomed to them, but with strangers they have a decided tendency to disagree, being unduly stimulating to the system. A practical and frequently debated question here suggests itself, viz., how far deleterious properties may be imparted to water by its transmission through leaden pipes. The danger is probably overrated, but very pure water has unquestionably the power of corroding lead, and becoming thereby impregnated with it, but the neutral salts (the carbonates and sulphates, more than the muriates), which are found in almost all springs, exert a protective influence by impairing the corrosive action of air and water. Hence rain and other waters which are nearly destitute of such salts, readily acquire the plumbeous impregnation, and to the extent to which this may go, become deleterious. The acquisition of this pernicious property may be known by exposing the suspected water to air, when it becomes covered with a white film, and the vessel incrustated with a thin coat of a pearly lustre, thereby indicating the presence of lead. A solution of this crust in acetic acid, is rendered blackish brown by sulphuretted hydrogen, and yellow by the addition of iodide of potassium, or bichromate of potash. By leaving the water at rest in the pipes for three or four months the danger is obviated.

On this subject the reader may refer to the excellent toxicological work of Professor Christison.

The medicinal Properties of Water, &c.—The direct effects of immersion in a cold bath, are a sudden shock to the nervous system, cooling of the surface, revulsion of the blood to the internal organs, and condensation of the animal tissues. The shock is marked by a feeling of chilliness, shivering, panting, and a mixed sensation of surprise and terror, occurring in a degree proportionate, on one hand, to the coldness of the water, and on the other to the constitution or state of health, of the patient at the time of immersion. Should the bath be not misapplied, or too long continued, reaction soon takes place. This is indicated by heightened action of the arterial system, renewed and increased fulness, heat, and colour of the face, hands, and general surface, with augmented feelings of alertness and comfort. When applied in constitutions too feeble to resist the shock, or if too long continued in any case, debilitating and even alarming effects may be produced, but when cautiously adapted to the circumstances of the case, the cold bath must rank as one of the most powerful tonics we possess, and it is in this view that it is chiefly employed as a medicinal agent. But not exclusively with this object, as it is used in some instances merely on account of the shock, or direct impression on the nervous system, as when sprinkled on the face in cases of fainting, or dashed on the surface in hysteric and other convulsions, in mania, and in fevers of different kinds. In such cases it is necessary to determine that the shock shall neither be too great, nor the reaction which is sure to follow prejudicial to the patient.

The cooling effects of water are constantly resorted to in febrile

and inflammatory diseases, but it is indispensable that when used with this object, its application should be continuous, for by interrupting its employment, increased heat and febrile symptoms are sure to follow. But it is chiefly on account of the reaction produced by it, that the cold bath is resorted to, and this is in general greater in proportion to the coldness of the fluid, the suddenness and duration of the immersion, the force of the circulation, the warmth of the surface, and the degree of muscular exertion called forth during its employment, by swimming or otherwise, as well as by the rapidity with which the surface is dried, rubbed, and clothed afterwards, points all requiring due attention.

The temperate bath differs, only in degree, from the cold bath, and may be employed in similar cases, where the effects of the latter might be considered too powerful for the system. Though not equally efficacious, it is, however, well adapted to persons of a delicate constitution, or to diseases where we might dread the effects of strong reaction.

The plunge bath, taken in the open sea, is the best way in which this remedy can be applied; and next to this, large artificial baths, sufficiently capacious to admit of swimming and other muscular exertion, are decidedly preferable to the small ones in common use.

The shower bath may be merely considered as a modification of the plunge bath, but the shock is greater, and that in proportion to the low temperature of the water, and height of its fall. Many persons who cannot bear immersion with impunity, will receive decided benefit from the shower bath, and it has this advantage, that we can accurately regulate the force of application, weight and temperature of the stream, and suspend or prolong its operation at our pleasure. By immersing the feet in warm water during the process, we can materially diminish the congestion of blood in the internal organs.

Affusion, aspersion, and ablution, are simply modifications of this remedy.

The douche or douse, is a local shower bath, in which a stream of water, at different temperatures, is directed, by means of a pipe, on a particular part of the surface, with various degrees of force. It is a powerful remedy in inflammation of the brain, and other affections, and therefore requires to be employed with due caution. I have seen the most violent phrenitic delirium calmed in a few minutes by its steady application to the scalp.

A common jug, or a tea kettle, will form a very good extemporaneous means of administering this remedy in such cases.

The douche should rarely, if ever, be continued more than a quarter of an hour, lest its protracted use should excite inflammation in the part to which it is applied. We may avail ourselves of this form of bath as a means of subduing chronic rheumatism, old tumours, and some cutaneous affections of long standing. Its efficacy will be still greater when we use for the purpose a warm sulphureous water, as that of Bareges, Aix, or Bagnères.

Partial, or local baths, are so termed when the water is not applied generally to the surface, but to a particular part of the body, as to the feet or hips, they have received the technical appellations of pediluvium and semi-cupium.

The belief of the superiority of sea-bathing dates from a very early period. We find it advocated by Athenaeus, as conducive to strengthening the nerves, *μαλιστα τοις νευροις προσφορος*. The ancients, we are told by Minutius, Felix, and others, came from great distances to enjoy its benefits, and it is certain that, owing to the salts which sea water holds in solution, it is more stimulating and bracing than other forms of the cold bath, and less debilitating to the constitution, as it more quickly produces reaction.

In our own time the use of this luxury in the summer months is very prevalent, and in Ireland, especially, much on the increase. But admitting that great benefit may be derived, particularly in lax habits, from an occasional residence on the sea-shore, we consider the combined influences of sea air, sea diet, and sea bathing, much too energetic in their operation, to render their indiscriminate and general employment beneficial or even safe. And where we hope to derive benefit from the practice, several points demand attention, even presuming that the remedy is suitable at all. As to the selection of a proper bathing place, and the frequency and duration of the employment of the remedy, such questions will be most prudently decided by reference to competent medical advice; here we can do nothing more than give some general directions, and briefly indicate the forms of disease in which it is likely to be beneficial, and those in which its use is questionable, or even unsafe. We must also, in forming our opinions, keep in view the varieties of climate, constitution, habits, and even the feelings, of those who consult us. Thus, although the naked Finlander can pass leisurely from a vapour bath of 160° into the open air, when the mercury is 60° below the freezing point, without inconvenience or injury, yet the most disastrous results would no doubt frequently ensue from the indiscriminate adoption of a practice so hazardous.

The best period of the year for sea bathing is during the summer and autumnal months, the temperature of the water being then at an average of about 62° , but ranging from 55° to 70° , owing to a variety of circumstances, as the heat of the weather, the period of the day, the depth of the water, and the extent and exposure of the strand over which it ebbs and flows. The time of day most suitable for the purpose, where the heat of the sun is not too great, is about three hours after breakfast, but it may be resorted to earlier, when the heat is excessive, as at that period it will not interfere with the digestion of the food, whilst sufficient vigour remains to ensure a proper degree of reaction. On arriving at the coast a course of bathing should not be commenced till the patient recruits in some degree from the fatigue of his journey, and till he becomes somewhat prepared for it, by breathing for a few days the stimulating air of the sea-side.

We should never enter the cold bath whilst the stomach is loaded with food, or when the frame is violently heated with exercise, or exhausted by fatigue, as injurious, and sometimes fatal consequences, are the result of such imprudence. In a state of languor or debility there may not be sufficient power to bring about the necessary degree of reaction, and one of the most usual causes of sudden death from bathing arises from going into the water with a loaded stomach.

Sudden immersion is preferable to entering the water slowly, and the body is in the most fit condition when a moderate degree of warmth has been produced by gentle exercise. The duration of the bath must be regulated by the disease for which it is used, as well as by the state of the constitution and temperature of the water; but from five to fifteen minutes may be considered a sufficient space of time to obtain all the advantages derivable from the practice.

The plunge bath may be used daily, or on alternate days, or twice a week, according to circumstances, but rarely or never more than once in the day.

After leaving the water the surface should be quickly dried, and rubbed well with a flannel or coarse towel, and the dress re-assumed as speedily as possible, to prevent chilliness, and promote reaction, which should be encouraged by gentle exercise, and failing this, by going to bed, by the use of tepid drinks, and warm applications to the surface. Slow reaction shews either that the bath has been too long continued—a practice fraught with danger in feeble constitutions—or that it is altogether inappropriate; whilst reaction too great for the general powers of the constitution, equally points out the risk of continuing it.

When bathing is found to agree, it should be continued for at least a month, or even longer, with occasional intermissions. Some persons persevere in its use through the winter months, not only with impunity but decided advantage, but this practice is rarely necessary, and by no means to be recommended. In the case of delicate children they should be gradually accustomed to the use of sea bathing, by the use of tepid water in the first instance; much advantage may thus be derived from the practice, where the rash employment of it might seriously injure the health, produce convulsions, and even death. Much tenderness is requisite in the immersion of timid children, lest the terror it sometimes induces, should far outbalance any advantage; indeed, where this feeling cannot be overcome, the practice should be altogether abandoned.

Where there is a tendency to deafness or disease of the ear, it is advisable to guard that organ with a little common or cotton wool. Another maxim of great importance is, that we should not enter the water in a state of excitement, either from over exertion or any other cause; the much lamented Bishop Heber is supposed to have lost his life in this manner. Persons subject to determination of blood to the head, if they resort to this questionable remedy at all, should wet their heads before immersion of the body.

In persons with delicate skins, where the irritation of the sea water causes pustular, or other eruptions, the practice should be intermitted for a few days, and fresh water employed, after which the sea bathing may generally be resumed without any inconvenience. Where the skin is very sensitive, much advantage will be derived from wearing a flannel dress when in the water. When it necessary or desirable to procure an artificial salt water bath (*balneum manufactum*), it is readily affected by dissolving one part of chloride of soda in thirty parts of water. The only precaution generally required before the use of the plunge bath, is to take care that the bowels are unloaded, and if the practice should cause head-ach, dependant on local determination of blood, a smart aperient or two, or even the abstraction of blood, may be necessary to render the practice safe; and a warm bath, when the skin is dry and harsh, is a good premonitory measure. When determination of blood to the brain is apprehended from bathing, a good precaution is to pour a few pints of water on the head before entering the bath, either in cases where the bathing cap is used or dispensed with.

The diseased conditions to which cold bathing is suitable, include various forms of general debility, shewing themselves in childhood, which foretel the occurrence of strumous diseases, and which may perhaps be thus averted. But due precaution must first be taken to ascertain the non-existence of any decided visceral affection.

In relaxed, debilitated habits, where sufficient power of reaction remains, much benefit may be derived from the practice, and no other remedy equals it as a preventive of the numerous diseases arising from great susceptibility of the variations of temperature. Thus we may ward off catarrhal diseases, rheumatism, chilblains, and other maladies having their source in atmospheric vicissitudes.

Nervous disorders, not dependant on, or complicated with visceral affections, are, with due precautions, frequently benefited by judicious employment of the cold or shower bath, as are also some passive hæmorrhages, chronic secretions from mucous membranes, as atonic bronchitis with much discharge, some forms of obstruction, and nervous dyspepsia.

Cold bathing, when it agrees, has an unquestionable tendency to strengthen the system, and guard against the attacks of a variety of diseases, to restore and brace the frame debilitated by low, damp, unhealthy situations, the irregularities of a town life, or hot and unhealthy climates; it removes muscular debility, improves the digestion, and renders us less susceptible to the vicissitudes of the weather.

Agues are frequently arrested by cold sea bathing in the hot stage, but its employment in the cold stage cannot be employed but at the greatest risk. In scarlatina, and other febrile diseases, especially of hot climates, cold affusion has been resorted to with decided benefit, as recommended by the late Dr. Currie of Liverpool; but it can only be used with advantage, or even safety, when the skin is decidedly hot and dry.

In the intervals of asthma, unaccompanied by visceral disease, the judicious employment of cold bathing is most beneficial in preventing the recurrence of the paroxysms of this most distressing malady.

In cases of declining health, without any local disease to account for it, bathing is occasionally very advantageous, and even after paralytic attacks, when it can be clearly ascertained that debility alone remains.

The conditions which render cold bathing totally inadmissible, or only to be employed rarely and with the utmost caution, are pregnancy, great plethora, active hæmorrhages, congestion, or acute inflammation of important internal viscera, tendency to apoplexy and hæmoptysis, most forms of cutaneous disease, and affections of the heart, as valvular obstructions, or feebleness of its walls. It is equally improper in chronic local engorgements, or inflammation affecting vital organs, or the mucous lining of the chest and alimentary canal.

The cold bath is seldom applicable in infancy or old age, or in any case where there is so much general debility as to preclude the hope of a due degree of reaction, and scarcely ever when decided scrofula affects the system. Indeed it should be entirely precluded in such cases where any of the vital organs are affected.

In some slight cases, where a trivial swelling of the glands is the only deviation from health, or in chronic scrofulous inflammations of the eyes, it may be used advantageously, as well as in those *tendencies* to the strumous habit already adverted to.

It is unsuitable in decided affections of the lungs, and in all very irritable constitutions. Violent hæmorrhage has in such cases been suddenly induced, not only by the cold bath, but even cold ablutions. Cold bathing cannot be employed with safety in cases of complicated asthma, or in persons liable to erysipelas; and in scald head it frequently induces dangerous internal disease.

Persons liable to disordered menstruation, whether from pregnancy or other causes, require great caution in its use; and in all cases about the monthly period, its employment should be abstained from.

[The above extracts are from a book recently published by Alexander Knox, M. D., late Physician to the Ballycastle Dispensary, Fever Hospital, and Poor House, entitled, "The Irish Watering Places, their Climate, Scenery, and Accommodations, including Analyses of the principal Mineral Springs, by Dr. R. Kane, and Remarks on the various Forms of Disease to which they are adapted, &c. &c." Small 8vo., pp. 336.

It arrived too late for regular review, but we may say, that it appears to us a most useful, well written, learned, and amusing work, containing, in a small compass, a great mass of information about our national watering places. It is a book we have often felt the want of, and we venture to say it will receive, as it well deserves, the patronage of the medical profession of Ireland.—ED.]

On the arched Tourniquet in the Treatment of Wounds of the Brachial Artery, by William Craig, Esq.—As an illustration of the use to which an arched tourniquet, such as that described by Dr. Oke,* may be applied, I beg leave to request the insertion of the following case in the Medical Gazette.

On the 10th August, 1838, P. Roney, aged 40, of spare habit and sallow complexion, whilst being bled on the previous day, had the brachial artery punctured at the bend of the arm. When he presented himself, the puncture in the skin was cicatrized. At the puncture there was a pulsating tumour, about the size of a pigeon's egg, which had the attendant bruissement of an aneurismal varix.

On deliberating what mode of treatment to adopt, I resolved to attempt the cure by compression. The ligature could have been easily applied in this case, as the vessel, from the small quantity of cellular substance, was very superficial. The operation, at best, is a clumsy remedy, and any other efficient means is certainly to be preferred.

Keeping the operation out of view, then, the indication was to arrest the current through the puncture in the artery for such a length of time as to permit the edges of the wound to be kept in contact till adhesion had taken place.

Compression over the tumour, and the necessary bandaging of the forearm and hand, were perseveringly used for a number of days, without lessening the size of the tumour or altering the bruissement. I observed, that by pressing the artery with the finger in its course, about the middle of the inside of the arm, pulsation in the tumour and at the wrist was quite suspended, and the patient could bear the necessary amount of pressure without inconvenience. It was obvious, then, that my object would be accomplished by any thing which could be substituted for the finger. With this view I made a quadrangle with four small pieces of wood, sufficiently large to encircle the arm; also a piece of wood $2\frac{1}{2}$ inches broad, and long enough to reach from the shoulder to the elbow. This was laid on the outer aspect of the arm. One side of the quadrangle was fixed to the wood thus placed, at a point opposite to that where compression was to be made on the vessel. A pad was placed over the artery a little below where the superior profunda is given off, care being taken not to involve the nerve in the compression. The pad was pressed firmly there by means of a rude sort of screw, passing from the side of the quadrangle opposite, to the one fixed to the wood placed along the arm.

The patient was put to bed, and placed in the recumbent position, and the arm raised in a perpendicular direction, and supported there by being suspended to the bed-post, and the pad made to press with such force as to suspend pulsation both in the tumour and at the wrist. The pressure was unremittingly maintained during 24 or 30 hours, at the end of which time the pulsation and bruissement had completely subsided. The arm was kept raised for some days afterwards, with a pad over the tumour, and all excitement and stimulation avoided.

For a considerable time after this treatment the patient complained of pain at the bend of the arm, arising evidently from the severe compression over the tumour before the application of the apparatus. However, this went gradually off.

It may be proper to remark, that the object aimed at by raising the arm was, that the blood thus acting against its own gravity, and consequently with less force, would require less pressure to stop the arterial current.

One peculiarity of this application is, the provision for preventing any compression of the limb except that which is indispensable over the artery. When the arched tourniquet is applied, there will be a corresponding degree of pressure at the point opposite that on which compression is made on the artery, and consequent compression of the textures between it and the bone, which must, by using it in such a case, add to the suffering of the patient. The piece of wood placed along the arm on its outer side, extending from the shoulder to the elbow, causes the counter-pressure to be diffused over a large surface of the arm, thereby rendering it nearly imperceptible to the patient.

I am not aware that this plan of treatment has ever before been adopted in such accidents. Plenck invented an instrument for making pressure on the wound at the bend of the arm, without pressing upon the whole circumference of the limb.

If the same success follow the adoption of this mode of treatment in future as has resulted in this case, it will certainly go far to supersede the necessity of applying the ligature.—*Medical Gazette*.

On the Effects of Tobacco, by R. H. Allnatt, M. D., A. M., F. S. A.—In the British and Foreign Review there are some observations by Dr. Chapman, an American physician, on the deleterious influence of the excessive use of tobacco. Nobody, perhaps, can speak on such a subject with an air of greater authority than one of our transatlantic brethren. The story of the dull and leaden, tobacco-chewing senator, on board an American steam-boat, is a picture of life and reality. The consumption of tobacco by Dr. Chapman's member of Congress was "almost incredible, by chewing, snuffing, and smoking."

When Raleigh introduced tobacco into England (for he still maintains the credit, notwithstanding the counter-assertions of Humboldt), the practice of smoking spread so rapidly, that at the end of the sixteenth century, bitter complaints were made in England of this imitation of the manners of a savage people. It appears from Camden, that the fumes were emitted by the nostrils—"e naribus efflant." Raleigh gained little credit from high quarters for the service he had rendered the community, as appears from the celebrated "Counter-blaste" of James I. "And now, good countrymen," says the regal anti-tobacconist, "I pray you consider what honour or policy can move us to imitate the barbarous and beastly manners of the wild, slavish, and godless Indians, especially in so vile and stinking a custome." Sir Edward Coke, on the trial of the unfortunate Raleigh, thus apos-

trophised him from the bench : “ Oh, damnable Atheist ! ” exclaimed the learned commentator upon Littleton, “ I will prove you the notoriousest traitor that ever came to a bar. Thou art a monster ! Thou hast an English face but a Spanish heart. There never lived a viler viper on the face of the earth than thou ! Go to, I will lay thee on thy back for the confidentest traitor that ever came to a bar. See the most horrible practices that ever came out of the bottomless pit of the lowest hell ! ”

In 1634, smoking was denounced in Russia under the penalty of cutting off the nose—a penalty, by the way, rather more appropriate to the practice of snuffing than that of smoking. The Turkish Sultan, Amurath the Fourth, rendered smoking punishable by death, under the supposition that it produced sterility. Urban VIII. anathematized the use of tobacco in churches. In the laws of Berne, the prohibition of smoking followed immediately after the crime of adultery.

The specific appellation, according to Humboldt, is derived from *tabac*, the name of an instrument used by the natives of America in smoking the herb.

The essential oil of tobacco is formed by destructive distillation ; hence it is produced in the ordinary practice of smoking. A curious instance of the deadly power of this substance is given in Barrow’s Travels in Africa :—“ As I was endeavouring,” he writes, “ to set a snake at liberty, which was about two feet in length, one of the Hot-tentots took out, with the point of a stick, from the short stem of his wooden tobacco-pipe, a small quantity of a thick, black matter, which he called tobacco-oil. This he applied to the mouth of the snake while darting out its tongue, as those creatures usually do when enraged. The effect of the application was instantaneous, almost, as that of an electric shock. With a convulsed motion, that was momentary, the snake half untwisted itself, and never stirred more ; and the muscles were so contracted, that the whole animal felt hard and rigid, as though dried in the sun.”

According to Orfila, the celebrated Santeuil experienced vomitings and horrible pains, amidst which he expired, in consequence of having drunk a glass of wine in which some Spanish snuff had been infused ; and from experiments instituted by the same toxicologist, it was found that five drachms and a half of common rappee, introduced into the stomach of a dog, caused nausea, giddiness, stupor, twitching of the muscles of the neck, and death in nine hours ; and that two drachms and a quarter, applied to a wound, proved fatal in an hour.

Malin has recorded two cases of death from excessive smoking ; in one case seventeen, and in the other eighteen pipes having been taken at a sitting. Fatal instances have also been given by Sir Astley Cooper and Sir Charles Bell, of the administration of the infusion of tobacco in hernia. The smoke, by inflation of the intestines, produced death in a case witnessed by Dessault. The application of tobacco poultices to the abraded skin, in some instances, has produced serious results. In the Ephemerides, an account is given of three children, who were seized with giddiness, vomiting, and fainting, from the

application of tobacco leaves to the head, for the cure of ring-worm.

Brodie's experiments prove that the action of the infusion of tobacco, when injected into the intestines, is to destroy the action of the heart, stop the circulation, and thus produce syncope and death. The empyreumatic oil, on the contrary, whether applied to the tongue or injected into the intestines, does not stop the action of the heart, but occasions death, by destroying the functions of the brain, without directly influencing the circulation; this diversity of action may probably be referred to the presence of *nicotin* in the infusion, which is not contained in the essential oil. The extract, prepared by a gentle heat, is not divested of nicotin, and therefore acts in the same manner as the infusion. It has recently been recommended by Mr. Chippendale, as a local application, in the treatment of *tic douloureux*.

Tobacco-smoking, a few years ago, was carried in this country to a great excess; and now, according to the statistical returns, the annual consumption of tobacco is very large. It is, however, no longer a *fashionable* habit in our streets; and the prohibitions which exist against its use in various places of public resort, may eventually have the effect of still further diminishing the pernicious custom.

Chewing tobacco, in England, is happily confined almost entirely to the humbler classes. In this process all the soluble parts of the plant are taken up by the saliva, and a great portion swallowed. I witnessed an instance of the deleterious effect of this habit in the early part of last summer. On a fine cool day, whilst walking in the fields, I was struck by the appearance of a young man, engaged in the pursuits of husbandry; his occupation was not an arduous one, but streams of perspiration ran down his face, his knees tottered, and he appeared scarcely able to sustain his emaciated body over the fallow ground. His cheek was sallow and sunken; his eye listless and heavy; and altogether he presented the appearance of a man inordinately given to opium-eating. Supposing he was ill, I questioned him, and he told me he had lately taken to chewing tobacco. The emetic effects produced at first had subsided, but his appetite was almost destroyed, and he was evidently gradually wasting under the noxious influence of the narcotic poison. I recommended, of course, a discontinuance of the abominable habit, and he took my advice. From that moment he began to recover his physical powers.

Such are some, and some only, of the effects of tobacco upon the system. In moderate doses it acts as a narcotic, sedative, emetic, diuretic, and cathartic; but its habitual employment will produce a *tolerance* of its effects, so that in progress of time, the constitution becomes, to a certain degree, inured to, and capable of withstanding its powers. But this resistance is gained at the expense of the vital energies. The nervous system becomes universally depressed, and hypochondriasis and dyspepsia, with their train of evils, follow. In the present luxurious and artificial state of society, more especially in large towns, medical men are frequently at a loss to ascribe the maladies they are called upon to treat to a specific origin; but I firmly

believe the habit of smoking has engendered, in this generation, many evils which have been imputed to other sources. I have known frequent instances of men, in the vigour of life, whose habits were temperate and active, but who, nevertheless, were harassed by a hypochondriacal melancholy, which rendered life almost a burthen. In these cases I have found that they were habitual smokers, and, moreover, that they *smoked fasting*; and consequently the saliva, necessary for the first process of digestion, was secreted in undue quantity, and wasted. The Turkish Sultan, who prescribed the bow-string for offenders, grounded his imperious edict on the supposition that tobacco produced *sterility*. That it does exercise great sedative power over the generative function there is no question, from the concurrent testimony of all great smokers; this, however, may probably arise more from its general debilitating effect, than from any specific power it may exercise over that peculiar system.

In all cases of indigestion and depression of the nervous energy, smoking should be strictly prohibited. I have known even a single pinch of snuff produce, in a person unaccustomed to its use, an instantaneous secretion of acid in the stomach, giving rise to intense gastrodynia. It has been frequently recommended in pyrosis, on the supposition that its sedative effects would arrest the effusion of fluid; but the grounds are erroneous; we can never isolate such effects; and if we could, the remedy indicated is not a sedative.

In conclusion, this paper has no other object than that of calling the attention of medical men to a subject which, I think, has been too much neglected.—*Medical Gazette*.

Perforation of a tuberculous Excavation through the Walls of the Chest, by J. S. Campbell, Esq., M.D.—From rarely seeing the *Medical Gazette*, my attention was only recently directed to a case of the above-named operation, reported by Dr. Hastings (of London), in the number of that journal for the 20th of December in the preceding year. Whatever be the results of that case, or whatever views may be held as to the judgment which led to the proceeding, it must be admitted by all, that the operation is one of grave importance, and, with your permission, I feel desirous of saying a few words on the theory and practice of thoracic openings generally, as well as of their applicability to tuberculous excavations.

That openings made into the chest, from accident or design, in healthy animals, are not necessarily fatal, is a fact long admitted, but never, perhaps, better shewn, experimentally, than by Van Swieten, and reported in his Commentaries.*

The continuance of life under such circumstances is sufficiently explicable. The lung collapses from atmospheric pressure exerted on its superficies, and if the opening be on one side alone, the production of arterial blood still proceeds on the other, with sufficient energy to

* Vide vol. ii. of English translation, pp. 105-110, section 170.

supply, for a time, the wants of the system. If, again, the opening be made on both sides, then the immediate extinction or continuance of life depends on the relative area of both openings, as compared with that of the glottis. The experiments on which this conclusion rests are briefly stated in the pages of *THE LANCET*, (March 6th, 1830.)

So far, then, we are led, by an acquaintance with such facts, to conclude that, *per se*, there is no necessary fatality in admitting air into the chest, and consequently found on this the admissibility of those operations frequently performed in its diseased conditions.

Such conditions may be arranged under three heads :—

1. Effusion of serum into the thoracic cavity as a sequel of pleural inflammation, the lungs remaining sound.
2. Effusion of a fluid more or less purulent, which generally, if not always, implies the existence of some severe anterior disease in the substance of the lung itself.
3. The existence of a cavity resulting from tuberculous disease — the immediate object of this paper.

As regards the first two of these, the principle on which thoracic paracentesis rests is similar, the only difference being, the nature of the fluid sought to be evacuated. In either instance, the lung is compressed, and breathing impeded by the weight of a fluid which acts on its exterior, and the legitimate object of the operation is to evacuate, by mechanical means, what we find the vital act of absorption unable to remove, in the hope that the substituted air will be more readily disposed of by absorption than the denser liquid. In all such cases, the judgment of the practitioner is best shewn, and the probable result best inferred, by duly considering the cause on which effusion primarily depends. If it result from simple pleurisy—not of very rare occurrence, or from simple abscess of the lung, uncomplicated with tuberculous deposit—a condition much less usually met with—then there appears a fair prospect of ultimate success ; not, be it remembered, because we cure the disease, but because we get rid, for the time, of an obstructing secondary evil, and are hence permitted an opportunity of combatting the primary malady by such measures as we deem fitting.

I now come to the intention of the operation proposed by Dr. Hastings, and executed by his friend—an intention which differs essentially from that proposed in two of the cases before named. In them, fluid is sought to be withdrawn from the cavity of the chest ; in this, from a cavity situated in the substance of the lung itself, with a view of removing air which distends it, and prevents the approximation, and, consequently, the adhesion of its sides.

The first serious practical difficulty which here presents itself is that of diagnosis ; for it is obvious that, unless the parietes of the cavity adhere firmly to the walls of the chest, great hazard must arise from rashly penetrating to its interior ; and yet it appears to me that the most dexterous stethoscopist or percussor cannot, with precision, determine the existence of an adherent cavity ; to ascertain the presence of a cavity even is not quite so easy as is often supposed ; but

here we have not only to do this, but also to ascertain that such excavation is throughout adherent. On such grounds alone the operation is one which should not be rashly undertaken.

But I will suppose a case—and such appears to be that of Dr. Hastings—in which the diagnosis was perfect, where the walls of the cavity did adhere to those of the chest, its interior containing air only. If the operation be ever admissible, it is in such a case ; but even then I should be disposed to question the principle on which it rests. A few words will explain my meaning.

The cavity is presumed to contain air, admitted, of course, through the trachea ; this distends it, and renders approximation of its sides impossible. To remove this, a new opening is artificially made into its interior, with the expectation that air therein contained will be finally evacuated.

When this theory is examined on physical principles, its fallacy seems to me strongly marked. All know that the atmosphere presses with an average weight of fifteen pounds on each square inch of surface, and that it is by the influence of such pressure that air permeates the lungs, when, by an inspiratory muscular effort, their containing cavity is augmented in capacity. Now, the very same amount of pressure which, acting through the windpipe, distends the lungs, or the abnormal excavation, with air, equally acts through an opening artificially made, and the result is, that the alternation of ingress and emission connected with the antagonistic acts of inspiration and expiration, go on as in the natural state, the only difference being, that according to the relative area of the external opening, as contrasted with the glottis, so will be the amount of air which enters by them respectively.

If I could imagine that any great advantage is attainable in phthisis by approximating the sides of a tuberculous cavity, I should be disposed to think that the plan long ago proposed by Dr. Ramadge, and referred to by Dr. Herbert, in your Number for the 18th of January last, was the more likely to succeed. By forcibly distending such portions of the lung as are still in a normal state, it is not impossible that a pressure might be exerted on the cavity adequate to counterbalance the atmospheric pressure which distends it, thus placing its internal surfaces in closer vicinity at least, if not in contact. But I much fear that the plan is practically but seldom crowned with success ; at all events, it has fallen to my lot to see numerous cases which had been treated by the forcible inspiration suggested by Dr. Ramadge, and in no instance did any good results follow. I am bound, however, to say, that all were cases of consumption very far advanced ; cases in which small hope of success, under any method of treatment, could have been rationally indulged.

Your correspondent, Dr. Herbert, who appears as the advocate of Dr. Ramadge's practice, and an opponent of Dr. Hastings' operation, states, that within the last " eighteen months " he has been present at " seven such operations, performed under Dr. Ramadge's directions." As these words occur when he is commenting on the undue severity

used in the operation immediately under review, a little obscurity arises as to whether Dr. Ramadge's cases involved the opening of tuberculous cavities, or simply puncture of the chest, with other intentions. It would be satisfactory to have this obscurity removed, and to know, if of the first kind, what were the results.

But admitting the expediency of operating in certain cases, one thing at least is clear, that even by success we can only hope to get rid of a secondary, though, without doubt, important complication. Persons who die of phthisis do not die because they have one or more empty cavities in the lungs. We appear now to have pretty certain evidence of the fact, that in numerous instances—either from some unknown change in the constitution, dependent on natural causes, or possibly from the influence of remedial means employed—tuberculous cavities often tend to cicatrize; and, provided always that the diathesis is removed, and the formation of new cavities consequently prevented, there appears to me reasonable evidence that consumption is, in one or other way, not unfrequently cured; using that term in a restricted sense.

Locally considered, phthisis is a progressive malady, and men seem now generally agreed that it originates in some derangement of the assimilative function, which reacts on the lungs, and there lays the foundation of that condition with which its more prominent symptoms are connected; but we know that a very large amount of the lungs may be rendered useless by other causes, without this leading to a fatal issue, and we hence legitimately may conclude, that to counteract at its source the constitutional derangement on which the local affection depends, is the proper object of inquiry with all who take an interest in this most fatal and yet most interesting disease.

Whether such an end is best attained by naphtha, by alkalies, by climate, counter-irritation, or a score of other plans hitherto advanced, it remains for future investigation to determine; but of one thing we may, I think, be pretty well convinced, that the healing of an excavation, even when accomplished, is not a cure of the malady, and I consequently object to Dr. Hastings' operation, not only because it is in itself hazardous and uncertain, but because, in its best aspect, it deals with an effect and not a cause.—*Lancet*.

M. Gendrin *on the Preservation of the Health of those who work Lead, and its Preparations*.—M. Gendrin has recently published in a French journal (*La Presse*), an article on the preservation of the health of those who work lead, and its various preparations, which we think sufficiently important to warrant our laying it in full before our readers.

“The morbid symptoms which ruin the health and endanger the life of those who labour in manufactories of carbonate of lead and of minium, are shared,” says M. Gendrin, “by all whose occupations lead them to employ lead and its preparations. More than forty professions are attended with danger to those who follow them, from this source. Among them the most dangerous are those in which are

prepared the chemical products, of which lead is the basis; such as manufactories of litharge, of carbonate of lead, of minium, of oxide of lead; establishments in which lead in the metallic state is worked (those for the fusion of lead for the manufacture of shot, and of printing types); works for the vitrification of the oxide of lead (potteries, china and crystal works); trades in which the salts of lead are used (house painting, black dying of horsehair stuffs, glazing of visiting cards), &c., &c. In all the establishments devoted to these purposes, most of which are on a very extensive footing, a large number of workmen are exposed to the action of a great quantity of poisonous matter, volatilized in a state of impalpable dust, or vaporized, or dissolved in fluids.

“ Thus brought in contact with the absorbing surfaces of the economy, the poison acts with the greatest possible energy, owing to the activity of the tegumentary functions, exaggerated by labour and by the elevated state of the temperature. Thence it is that we see the unfortunate beings whom want of work in other professions throws into these, obliged to cease their labours after a few weeks, and forced to enter the hospitals suffering from the most serious symptoms. Unfortunately for them, the violent abdominal pains which constitute the principal symptom of poisoning by lead, are always followed by extreme debility, and often by incurable paralysis. In some instances, happily rare ones, those who work at the preparation of minium are attacked with epileptic symptoms, which either terminate in death or leave the patients in a state of insanity, or of cachectic debility, which, generally speaking, our art cannot remedy.

“ In the presence of so great an evil, it becomes a duty for all medical practitioners to unite their efforts to attenuate and to prevent the disastrous effects of poisoning by lead. It is this duty which I accomplish,” continues M. Gendrin, “ in making known the result of fourteen years’ experiments respecting the treatment of saturnine diseases, continued without interruption in the medical divisions of the hospitals, the Hotel Dieu, Cochin, and La Pitié, intrusted to my care. I do not hesitate to say, with a feeling of deep conviction, that nearly all saturnine diseases may be cured, rapidly and securely, by an easy and cheap remedy; and, the most important point of all, that the occurrence of saturnine affections may be prevented.

“ Whatever may be its gravity, unless it be complicated by cerebral symptoms, lead colic may be always cured by the ingestion alone of sulphuric acid, in the dose of from a drachm and a half to two drachms, mixed with about three pints of water, for the four and twenty hours. The cure takes place in six days, on an average, if the disease is extreme; in three days, if it is slight.

“ Whenever the skin of the patient is covered with a layer of lead, as is the case with nearly all the workmen who come out of workshops in which large masses of the metal are operated upon, to the sulphuric acid, administered internally, must be added the external use of sulphurous and soap baths, the cleansing action of which is increased by the deterative action of frictions performed with a brush.

“The nervous and cerebral symptoms only occur, generally speaking, when the patient has already suffered from several saturnine affections inefficiently treated. If they manifest themselves at the first attack, it is because the skin is covered by a layer of metallic powder, which keeps up permanent poisoning of the system. Even in these cases, which are the most difficult to manage, if the disease is attacked in time, by insisting longer on the sulphurous and soap baths, a cure is effected in from eight to ten days on an average. The constant efficacy of this simple treatment is to be explained by the conversion into an insoluble, harmless salt (the sulphate of lead), of the mineral poison absorbed, and by the ablation of the particles of lead deposited on the tegumentary surface.

“The preservative treatment is based on the same principle. In order to preserve workmen from saturnine affections, the following precautions must be adopted:—Two glasses of the sulphuric lemonade must be drank each day; the parts of the body which are uncovered during labour must be washed with soap and water at each cessation from work; the workman must have clothes on purpose to work in. Those who are employed in localities where the atmosphere is loaded with a great quantity of metallic dust, or poisonous vapour, ought, also, to take two general soap baths each week, scrubbing the body with a flesh-brush. The omission of these precautions during six or eight days, or even during two or three, if the workman commits excesses in drinking, is often sufficient to allow the symptoms of poisoning to appear. Thence the necessity of continuing for some time the use of the sulphuric lemonade and the soap lotions, even after ceasing to work at lead. Sulphuric lemonade may be thus taken without any injury to the health. The work people of the manufactory of carbonate lead of Clichy have taken it during two years and a half, without experiencing any ill effects whatever.

“No one need be surprised,” says M. Gendrin, “that I should speak with confidence, even with authority, on the subject. What I have above stated is merely the interpretation of facts. Since 1831, I have thus treated between four and five hundred cases, all of which have been carefully taken down by my house physicians, nearly all of whom are now in practice, and have adopted my practice, as have also many other enlightened physicians at home and abroad. M. Roard, the learned chemist, who is at the head of the manufactory of Clichy (the principal manufactory in Paris for the carbonate of lead), has made his workpeople use the sulphuric lemonade during two years and a half. This precaution alone has enabled some of them who had previously been attacked several times by lead colic, to work during six months without intermission, and without experiencing the slightest indisposition. The inspectors and workpeople of various other establishments have likewise owed the preservation of their health to the adoption of these precautionary measures.

“The general adoption of the treatment which I recommend would be attended with great advantages. It would, firstly, preserve the health of men whom poverty alone, generally speaking, compels, in

order to give bread to their families, to devote themselves to occupations which only reward them with disease, infirmities, or death; secondly, the manufacturers would find as many labourers as they wished, who, being able to remain for a considerable length of time at their occupations, would acquire a thorough knowledge of the manipulations in which they are engaged, a knowledge which they now seldom, if ever, possess. How is it possible to have workpeople well acquainted with the various manipulations required in establishments of this kind, when, either from actual disease, or from the fear of it, they seldom remain in them more than a fortnight? If the workshops were to cease to be unhealthy, the work would be better executed, the price of labour would diminish, and the products would be more abundant. The preservative measures which I have pointed out are attended with but very trifling expense. Sulphuric acid and soft soap are so cheap, that an exceedingly small outlay would meet the expense incurred. In large establishments, the water furnished by the steam-engine, which is generally wasted, might be used for baths.

“ In addition to the remedial and preservative measures which I have recommended, there is still much to be done to preserve those who work lead and its preparations, by mechanical precautions. Is it not deplorable, for instance, that the sieves for minium, and the mills for the carbonate of lead, should still, in many establishments, be moved by hand?

“ My task is now fulfilled. I have proved that we possess the means of putting a stop to a great evil. A general administrative law is wanted; and it is the duty of a government to adopt those measures which are calculated to preserve the health of the population intrusted to its care.”—*Lancet*.

Contribution to the History of Malaria, in a letter from Dr. R. S. Holmes, of the Medical Staff of the United States Army, to Professor Dunglison.—SIR,—You were so kind as to call my attention lately, to an extract from a letter written by me, dated “Fort Macomb, Middle Florida,” which you did me the honour to insert in the last edition of your work on Human Health, or the elements of Hygiène, in which I mentioned the great difficulty I experienced in accounting for the unhealthy character of that post, it being situated on a bluff, above the River Suwannee, out of the neighbourhood of marshes; a lofty growth of pines extending for many miles back from the post, and the sand on which it was built, and around it, being of that pure white character so common to Florida. I also hinted at my suspicions of some geological cause being at work in the production of disease; and, I am happy to say, further investigations confirmed these views.

In a Report on the medical topography of the post, made for the Surgeon-General, a few weeks after I had been stationed there, I expressed my utter inability to account for the volumes of miasmata (known by its effects on nearly every man in the command) that were generated around us. In a subsequent Report, made after four

months' sojourn there, I accounted for it, at least entirely to my own satisfaction, in the following manner.

During a tedious convalescence from a low type of congestive fever, my short walk of some forty or fifty yards from the post was always terminated by a profuse growth of fungi, of a single species, known to botanists as the *phyllus fœtidus*. This locality, being the principal one in the neighbourhood, covered a space of about two hundred square yards. Why the walk terminated here will be perfectly evident to any one acquainted with the vegetable growth in question: there is probably no living vegetable that can and does exhale so disgusting an odour as this fungus. If it is in its *living* state that this odour is exhaled, or only in its *decay*, I never had the hardihood to ascertain; for as the fungus lasts only for twenty-four or thirty hours, and there is a new growth every morning, the dead plant is always present; neither am I certain, nor do I see any reason, why this fungus, in its decay, which commences some ten or fifteen hours after it appears above the ground, may not produce disease. I certainly have seen from three to four hundred of these most beautiful but disgusting vegetables, dotting, with their pure vermilion colour, nearly every inch of ground in the locality. I will not stop, however, to inquire about their power in disease, but from their potency on the organs of smelling, one could readily believe that they grew among Milton's

“ Rocks, caves, dens, pools, swamps, bogs, and shades of death !”

But as this was in the autumn and winter months, when rain does not fall in Florida, often for many weeks, and this season especially offered a constant succession of bright, clear days; and as the fungus requires an immediate supply of moisture for its growth, it became an important question to know how this moisture was obtained. The locality was on a level patch of sandy soil, fifty feet above the river, and not one hundred yards from it; at one side there was a gentle descent toward a small stream entering into the Suwannee; so that the spot on which the growth was most abundant, was really on an elevation. I had the earth dug thereabouts; and, at depths varying from one to several feet, I found a stratum of white, stiff clay, perfectly impervious to water infiltrated through the sand above it, and retaining it on its surface as effectually as if it had been a coating of India rubber spread beneath.

I thought I thus obtained the solution of the mystery; the Fort had been selected on account of its apparently healthy situation; and the cause of disease had been a puzzle to many others beside myself. I found this stratum of clay extended for several hundred yards in certain directions; you might trace it with almost unerring certainty by the nature of the dead and living vegetable substances on the sand above it. Heavy branches and trunks of pines, and oaks, would be moist and wet in the dry months of winter in Florida, while a profuse growth of ephemeral mushrooms, such as spring up in the North

only after heavy rains, would meet the eye at every step, even when rain had not fallen for several weeks.

Any one who knows the nature of the forests of Florida will see how the constant presence of moisture among the great number of branches, leaves, and trunks of trees that cover the ground, will be a fruitful cause of decay among them, taking place as speedily as the nature of the wood will permit; for, unlike the forest trees of the North, those of the South, from the greater amount of resinous principles in them, resist decay for a much longer time.—*Philad. Med. Exam.*

Account of a Case in which sixteen sewing Needles and four Pins were extracted from the Wrist, by H. Gordon P. Spencer, Student of Medicine of Champion, Jefferson County, New York.—“About the 21st or 22nd of September last, I was called to see a young lady, Miss P——, with her hand and wrist much swollen and inflamed, and very painful and stiff, in consequence, as she supposed, of a sprain. The pain was of the acute, lancinating kind, and was much increased by the least attempt to move or bend the wrist. She was ordered to keep it perfectly at rest, and apply evaporating lotions.

“Sunday, September, 29th, called again, and found the hand and wrist of nearly normal appearance, but she was not able to bend the joint without violent pain, extending up the whole length of the arm. On examination, I discovered on the back of the wrist, a short distance below the extremities of the radius and ulna, and near the middle of the wrist, just under the skin, some foreign body, apparently confined between the bones. Supposing, from her account, that it must be a small spiculum of bone, I made an incision directly over the body, and having by a probe ascertained its exact position, I introduced a small pair of forceps, and, to my great surprise, extracted three pieces of needles. During the ensuing week, at different times, I extracted other pieces, in all, eleven whole needles and four pins, without heads. Since that time, my father, Dr. Gordon P. Spencer, has extracted and sent to me two others. In all sixteen needles and four pins have been extracted; three of the needles were broken into numerous pieces, all were much corroded, and most of them considerably bent. How these bodies came there it is impossible to say, but from the manner in which they were confined, the depth from which they were taken, and the whole appearance of the parts, as well as of the needles, it seems impossible that she could have voluntarily introduced any one that was extracted. Some were found as much as two inches above the incision, laying directly between the bones. In conclusion I would state, that nearly all of these pins and needles were removed in the presence of some of our most respectable citizens, and they are all now deposited in the Museum of the Jefferson Medical College of Philadelphia.”

Notwithstanding the difficulties mentioned by our young correspondent, without intending to impeach the character of the young

lady for morality, we are nevertheless of opinion that she did voluntarily introduce all the pins and needles that were taken from her wrist. How else could they get there? Strange aberrations of mind occasionally occur, especially in hysterical females, under the influence of which they are guilty of acts greatly at variance with their general character.

In the *London Medical Intelligencer*, of Nov. 1822, we have a notice of a case published in the *Medical and Physical Journal*, by Dr. C. Otto, of Copenhagen, of "a dreadful case of hysteria, which, for several years, appeared under the most varied and violent forms, such as stupor, delirium, dreadful cramps, tetanus, fevers, vomiting of blood, &c. At last, a tumour was perceived on the abdomen, which was opened, and a common needle was extracted. A second appeared in the loins, and another needle was found; in short, between February, 1819, and August, 1820, *two hundred and seventy-three needles were extracted*; thirty-nine of them being from the left lumbar region, twenty-two from the left breast, forty-one from the epigastrium, &c. Whenever a needle was near the skin, the most acute pain, fever, hiccough, and vomiting of blood, were excited: in the intervals, however, the girl was quiet; indeed, during the fifteen years which this case has occupied, the patient has been occasionally in perfect health, and no needles have been extracted for more than two years." The *Intelligencer* mentions another case in which "the foolish creature cajoled a number of medical men, and was very successful in extracting money from them, by permitting them to extract needles from various parts of her body.—*Ib.*

An Account of the Chemistry of the red Particles of Blood, by W. Procter, Esq., M. R. C. S. E., York.—That important changes take place in the blood in the lungs, is a fact which has been known since the discovery that it regularly passes through those organs, and from time to time, numerous theories have been brought forward to account for such changes, but not one of them explains sufficiently the manner in which the chief agent in the metamorphosis is conveyed from the respiratory organs. But the rapid and extensive advancement of organic chemistry, at the present time, has already done much, and promises to do much more, for this branch of physiology.

The theory of respiration promulgated by Liebig is now generally known; his view is simple, and readily understood, the changes, according to him, being dependant on chemical facts which have long been known. He shews that the red particles of blood contain oxide of iron, and possess the property of combining with gases, and that on these two qualities depends the change of colour induced in the blood by respiration. Arterial blood, he says, contains iron as a peroxide. In contact with animal matter this hydrated peroxide becomes the carbonate of protoxide of iron; the change, or deoxidation, taking place in the capillaries, and the deoxidized globules, in their return

towards the heart, combine with carbonic acid, producing venous blood. Arrived at the lungs, in contact with water and oxygen, carbonate of iron is decomposed with evolution of carbonic acid, absorption of oxygen, and conversion into hydrated peroxide, which again, under the preceding conditions, becomes the carbonate of iron.

Thus, then, it is evident that the basis of Liebig's theory rests on the presence of peroxide of iron in arterial blood, and the changes produced thereon by the various reagents, to the action of which it is exposed. It has long been a disputed point amongst the best authorities in physiological chemistry, whether this substance exists in the blood as a metal or as an oxide. Fourcroy and Vauquelin supposed the colouring matter to be a solution of subphosphate of iron in albumen. This view the experiments of Berzelius completely destroyed, inasmuch as he found that salt is insoluble in serum, with or without the addition of an alkali; the opinion of Prevost and Dumas, that peroxide of iron, with albumen, is the source from whence the colour is derived, he also shewed to be equally erroneous, because, if that were the case, dilute sulphuric or hydrochloric acid should dissolve out the metal; and though it is true that Liebig says it does so, Mulder remarks, it is from the clot, not the globules, that the solution takes place, from the albuminous elements, in all of which iron is found in a soluble condition. The most delicate tests of oxide of iron do not detect it in the blood; Rose endeavours to account for this on the presumption of a peculiarity of combination, which he does, by shewing that the oxide, in combination with gelatine and other organic substances, behaves in a similar manner; yet this is insufficient, for dilute acids still dissolve the metal from such artificial mixtures, while in blood they do not. Berzelius is inclined to consider that iron exists in the blood in a metallic condition as a quinary compound with nitrogen, carbon, hydrogen, and oxygen, and that the three primary compounds of the blood, viz., fibrin, colouring matter, and albumen, are merely modifications of one and the same substance; that the colouring matter, for example, may owe its peculiarity to iron.

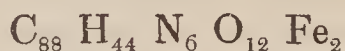
Mulder is amongst the most recent experimentalists on the subject. He has shewn, as did Englehart, that chlorine removes the iron, as a chloride of that metal, when passed through a solution of the colouring matter of blood, with formation of chlorous acid, precipitated, in combination with hæmotosine, in white flakes. In this experiment the red colour disappears, but it is not to be from hence inferred, that this decolorization is due to the removal of the metal. In proof that it is not so, if some dried coagulum of blood is macerated with strong sulphuric acid for some days, hydrogen is evolved, as, during its action on metallic iron, with the formation of sulphate of iron, which may be separated by washing and filtration, the protein is also removed with sulphuric acid, and pure colouring matter, or hæmotosine, free from iron, is left, under these circumstances retaining its characteristic hue.

In this experiment the results are certainly somewhat complicated,

on account of the interference of the various protein compounds existing in the coagulum submitted to the action of the acid ; it would, consequently, be much more satisfactory to submit to experiment simply the pure red particles, which may be managed by the addition of a substance capable of preventing the coagulation of fibrin, as thereby the globules are not enclosed in a clot. Nitrate of potassa dissolves the fibrin of venous blood ; if blood, as it escapes from a vein, is allowed to fall into a solution of this salt, the red corpuscles subside, and may, by filtration and washing, be cleansed from adhering serum. When these corpuscles, thus prepared, are dried, and mixed with sulphuric acid, hydrogen is evolved, as before ; sulphate of iron is in solution, and insoluble red colouring matter, devoid of iron, is left, constituted $C_{44} H_{22} N_3 O_6$. On boiling this with alcohol, the spirit is coloured intensely red, but no iron can be detected in the spirituous solution.

As neither hydrochloric nor dilute sulphuric acid will, by long digestion, remove the iron from the blood, it is exceedingly improbable, if these agents fail in producing that oxidation, which they must do before effecting solution, that such a process shall go on in the lungs.

Mulder brings forward a stronger and more direct argument in favour of the view he upholds. In order more clearly to shew this, let the equivalent of the colouring matter be doubled, which would stand thus :

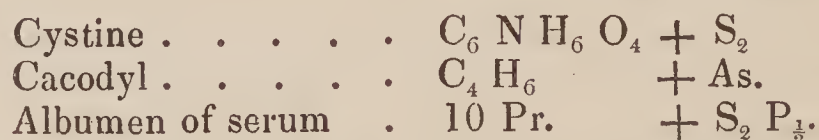


Now, assuming the metallic constituent removed by sulphuric acid to be $Fe_2 O_3$, the equation would be

$$(C_{88} H_{44} N_6 O_{12} Fe_2) - Fe_2 O_3 = \frac{C_{88} H_{44} N_6 O_9}{2} \\ = C_{44} H_{22} N_3 O_{4\frac{1}{2}}.$$

But the hæmatosine is $C_{44} H_{22} N_3 O_6$, which would be the result if iron simply were abstracted ; but if the oxide, a result opposed to analysis is obtained.

Some difficulty is certainly experienced in explaining the exact mode in which metallic iron is combined with the elements of the blood globule ; still, the progress of modern chemistry has put us in possession of the knowledge of several analogous compounds. M. Le Cane holds the same opinion of the union of carbon, hydrogen, and oxygen, with phosphorus, in the fatty matter of the brain. We have also



In all these formulæ the sulphur, arsenic, and phosphorus, respectively, represent iron in the globules.

If these arguments and experiments are considered sufficient to disprove the opinion that iron exists as a peroxide in the blood, some other efficient cause must be sought to explain the phenomena which

are referred to its agency. The colour of arterial and venous blood is apparently unconnected with the metallic ingredient, whatever may be its chemical condition in that fluid, a detailed experiment having shewn that it may be removed by sulphuric acid without affecting the colouring ingredient.

The corpuscles of the blood appear improperly to be called globules, not having, in their ordinary condition, a globular figure. According to Hewson, Young, Hodgkin, Lister, and Queckett, their form is that of a biconcave lens—a vesicle or cell, with thickened walls, in a collapsed condition; the coverings of the cells admit of transudation, and by the addition of water to blood, endosmosis takes place, and the corpuscles acquire the form of a distended cell, with thinned coats, and become so transparent as to be with difficulty perceived. Red corpuscles thus changed may be brought back to their original form, more or less, by the action of reagents which are capable of inducing exosmosis. The enveloping cell is composed of a peculiar protein compound, closely allied to albumen, globulin of Berzelius, which is left in combination with sulphuric acid, by the action of that acid on coagulum; whilst the internal coloured portion is hæmatosine, already sufficiently examined for our purpose.

When chlorine is passed through an albuminous fluid, chlorite of protein is formed, and precipitated in white flakes; by the action of ammonia on this compound, a new oxide of protein, mixed with hydrochlorate of ammonia, is produced; this is tritoxide of protein (gelatin of Bouchardat); it is also formed when fibrin or albumen is boiled in water. It is prepared in the lungs, and is consequently found in the blood, particularly in excited states of the system, as a main ingredient of the buffy coat. By dissolving this compound in potassa, and precipitating by an acid a second oxide, the binoxide (epidermose of Bouchardat) is produced; this oxide is insoluble in water, while the former is soluble. It is probable that both these oxides are formed from the fibrin as often as the blood passes through the lungs; this is demonstrated by an experiment of Scherer; he found by exposure of moist fibrin to oxygen, that the gas was absorbed, and carbonic acid given out, but that more of the former disappeared than was accounted for in the evolution of the latter; the loss he found to be expended in the formation of an oxy-compound of protein; for the fibrin, after this exposure, on being boiled in water, left binoxide of protein undissolved, while the tritoxide was found in solution. Valentin and Brunner shew that hourly 69.0575 grains of oxygen are absorbed, which are not employed in forming the carbonic acid of the expired air.

Mulder avails himself of most of these facts (many of them his own discoveries), in explaining the changes produced in the lungs by respiration. He presumes the bright red arterial blood corpuscles to be biconcave lenses, and therefore in a good condition to reflect a great amount of light; this concave form is in several ways materially influenced by the formation of oxy-protein taking place in the lungs; the contraction which will necessarily

follow the formation of this "buffy" membrane, while the investing membrane being thus (as Emmert and Mayer have remarked) denser, whiter, and thicker, and consequently more opaque, will put them in a state more favourable to reflection, and necessarily heighten the colour. On reaching the systemic capillaries, the layer of oxidized protein is removed and decomposed, the protein being employed to repair the various structures, while as to the oxygen, we may adopt Liebig's opinion that it "serves to produce change of matter, and determines the separation of living parts, and their conversion into lifeless compounds, as well as the formation of the secretions and excretions." Deprived in this manner of their envelopes, the arterial become venous corpuscles, the light passes more readily through their coats, and is materially altered from the change they have undergone from the double concave to the double convex form.

Thus, then, the action of air on oxygen, or venous blood, is imputed to the absorption of the gas, not by the colouring matter, but by the protein, which is in consequence oxidized. Any agent which affects the form of the globules, and, as a necessary result, at the same time, their reflecting power, in a corresponding degree alters their tint; for example, saline solutions produce exosmosis in venous blood. A consequence of this emptying is a collapsed condition, or concave form; and the arterial hue, for reasons previously stated, is assumed; while, on the other hand, washing this blood with water, or passing through it many gases, or treating it with dilute acids, induce endosmosis, and with this alteration of physical character is produced the venous colour. Doubtless the action of carbonic acid and dilute acids may be referred to the solution of oxy-protein; an alkaline fluid, in destroying the red colour, operates in a similar manner.

Scherer is inclined to hold much the same opinion as Mulder, that the difference of colour between arterial and venous blood depends rather on physical than chemical causes, and by his experiments tends to confirm similar views of Henle and Nasse. A quantity of fresh and bright-red blood was mixed with water; it became dark, in fact venous; and with the change of colour consequent on this dilution, the globules were found to have undergone a material physical alteration; they had lost their concave form, and had become spherical from the absorption of water by their coats. Neutral salts added to blood thus darkened changes the form and colour of the corpuscles. The microscope shews that while carbonic acid causes the corpuscles to become spherical, oxygen reduces them to a hollowed form; in this case, doubtless, the mechanical action of the substance as a gas being interfered with by the chemical property it possesses in the formation of oxy-protein. If, through the mixture of blood and water previously spoken of, oxygen is transmitted, the dark colour still remains, in all probability on account of the absence of the necessary conditions for the formation of the firm covering; but if to it white particles, capable of reflecting light, as oil, milk, finely-powdered chalk, &c., are added, then the arterial hue is assumed.

The conclusions that Scherer draws from these and other experi-

ments are, that as the addition of distilled water cannot deoxidate the colouring matter, while neutral salts cannot add oxygen to it, and the actual addition of that gas does not produce a red colour in the blood, the change produced in the colour *cannot be a chemical one*. If the act of respiration in the living body, and addition of neutral salts out of it, produce the same change in the colour of the hæmotosine, it is possible that they both exert the same physical action as the envelopes of the blood corpuscles.

Thus, then, the opinions of both Mulder and Scherer are essentially identical, and account, in a satisfactory manner, for the phenomena of respiration; both agree in referring the whole to the different refraction and reflection of light produced by the several forms of the corpuscles assumed under certain conditions; Mulder considering that the change of form affords a sufficient explanation; Scherer, from his experiments, though he does not appear to deny the important part that form has to do with the change of colour, seems to think that the red tint depends additionally on the presence of white reflecting particles in the blood—in fact, chyle globules.—*Ibid.*

Case of Dislocation of the Head of the Tibia forwards and upwards on the Femur.—Anne Byrne, a healthy woman, æt. 35 years, admitted into the Richmond Hospital, June 21st, 1845, states that she was carrying a heavy load of metal on her back, when her right heel slid forwards rapidly, the knee at the same time being directed inwards, with a twisting motion; she fell to the ground, from which she was unable to rise; was immediately carried to hospital, and the following observations were made by Dr. Hutton, under whose care she was admitted. The limb lay extended, and was an inch and a half shorter than the other; the foot was inverted, but not fixed in that position; the patella was pushed upwards, its inferior border being directed forwards, and its posterior surface downwards, resting on the articulating surface of the tibia: this could be distinctly felt when the patella was pressed to one side, which it was very easy to effect. A transverse sulcus bounded the patella superiorly. The anterior surface of the thigh was on a plane considerably behind that of the leg, which was twisted a little inwards; the condyles of the femur were distinctly felt posteriorly, particularly the outline of the external condyle; there was great laxity of the articulation, and lateral motion was easily produced to a considerable extent, particularly in an outward direction; the muscles on the anterior part of the thigh were quite relaxed, and the ham-string muscles could not have been tense, as the limb lay extended, and there was little resistance to extension in a right line, by which the dislocation was reduced in a few seconds; the fibula maintained its connexions with the tibia; there was no numbness of the leg, but the pulsation of the anterior tibial artery could not be felt; it was, however, not very distinct in the uninjured limb. This accident seems to be of rare occurrence, and the symptoms of the laxation are not fully described, either by Sir Astley Cooper or Boyer, probably because the injury was deemed by them easy of recognition, and

yet the description of this luxation, in the Dictionnaire de Medecine, is taken from an unreduced case, mistaken or overlooked by the attending surgeon. In this luxation Boyer expresses his opinion, that the lateral ligaments must be torn as well as the crucial and posterior ligaments of the joint, but in the case here related, lateral motion could not be communicated after the dislocation was reduced, which seems to prove, that they could not have been ruptured, nor even stretched to any great extent. Some variety, however, is to be expected in injuries of this nature, according to the degree of force applied, its direction, and other circumstances.

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